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February.—Frontispiece and three engraved supplements from photographs by BARON AD. DE MEYER, London. Engraved supplement from photograph by MRS. CATHERINE WEED WARD, London.

March.—Frontispiece and two engraved supplements from drawings by CARL BOHNEN, St. Paul, Minn. Engraved supplements from photographs by KARL BRAUN, Ludwigsburg, Germany; C. MADLUNG, Schwabach, Germany; E. E. SEAVEY, New Castle, Pa.

April.—Frontispiece engraved from a photograph by ALFRED STIEGLITZ, New York. Engraved supplements from photographs by GERTRUDE KASEBIER, CLARENCE WHITE, New York; NEW PHOTOGRAPHIC STUDIO, Berlin, Germany.

May.—Frontispiece engraved from a photograph by L. A. DOZER, Bucyrus, Ohio. Engraved supplements engraved from photographs by C. F. TOWNSEND, Des Moines, Iowa; W. H. TOWLES, Washington, D. C. Engraved supplements from drawings by CARL BOHNEN, St. Paul, Minn.

June.—Frontispiece engraved from a photograph by MINYA DIEZ DÜHRKOOP, Hamburg. Engraved supplements from photographs by E. GOLDENSKY, Philadelphia.

July.—Frontispiece and an engraved supplement from photographs by MANLY W. TYREE, Raleigh, N. C. Engraved supplements from photographs by MARY CARNELL, Philadelphia.

August.—Frontispiece and two engraved supplements from drawings by CARL BOHNEN, St. Paul, Minn.

September.—Frontispiece and eight engraved supplements from photographs by THE HOFFMAN STUDIO, Philadelphia.

October.—Frontispiece and two engraved supplements from photographs by KATHERINE JAMIESON, Pittsburg, Pa. Engraved supplements from photographs by VAN LOO STUDIO, Toledo, O.

November.—Frontispiece and two supplements from photographs by S. H. LIFSHEY, Brooklyn, N. Y.

December.—Frontispiece and four engraved supplements engraved from photographs by GIFFIN STUDIO, Wheeling, W. Va. Engraved supplement from photograph by W. B. STAGE, New York.

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OUR PICTURES:

Frontispiece and Four Engraved Supplements from Photographs by Mrs. G. W. Sutton, New Rochelle, N. Y.

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An Actual Experience

A FEW days ago I dropped into the photographic department of the greatest news agency in the world.

Believe me, the fellow who showed me around was very courteous, but one of the keenest buyers I have met, only he took me for a visiting photographer. He was proud to show me his well appointed stock room full of

Cyko Paper

"You just told me your department was compelled to buy the lowest priced goods obtainable," I remarked, "yet you are using CYKO." "Yes," he answered, "I have tried all the papers on the market and CYKO is the lowest priced. Every sheet means a good print—no waste, no loss of time. Rejected prints and lost time are worth money to us."

This fellow could tell CYKO in the dark by sensing, and he proved it to me!

Secretary.

Ansco Company, Binghamton, N. Y.

By MRS. G. W. SUTTON, New Rochelle, N. Y.

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

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PURGING THE PROFESSION

FOR many years there has been a growing demand among photographers for a fuller recognition of their chosen profession. Many photographers have spent the best years of their lives trying to elevate photography among the arts. It was even suggested that the time was ripe for the founding of an academy and the conferring of degrees, following the example of painters and architects. It was decided, however, that the time had not quite arrived.

Photography has not yet found its level. There is too wide a gap between the man who is ever striving to excel in his work and uphold the dignity of his calling and the man who employs unscrupulous agents to secure business on a questionable basis.

Unfortunately, the idea prevails that photography offers an opening to an easy method of making money and without the bother of having to spend much time or study in learning the details of its practice. So many men drift into the business with little or no knowledge of its requirements and are content to struggle along without seeking to know more. It would be very different if photographers, like doctors and lawyers, had to qualify before an examining board as to their qualifications before being allowed to ply their profession.

Another factor that tends to cheapen photography as a profession is the ease with which a line of photographic goods can be obtained on credit. A man having failed in other lines of business can get a studio on the pay-by-and-by plan, get apparatus and materials on credit, and proceed to make photographs. If he succeeds well and good, he will pay the stock house and studio owner, but if not, which is the more likely, he simply moves on and leaves his bills unpaid, and these, of course, have to be paid indirectly by those who are doing a legitimate business.

Until there is a better organization and closer coöperation between every body of photographers, and also between photographic manufacturers and dealers, these unsatisfactory conditions will prevail. Irresponsible, incompetent, and unscrupulous men will float in and out of the profession casting a stigma upon every hard-working and painstaking photographer, and photography will remain in its present unsatisfactory status.

MODIFICATIONS OF TANK DEVELOPMENT

BY A. E. SWOYER

MOST photographers will admit that the uniform use of a dilute developer will produce a better average of negatives than will work rushed with a strong solution. But when we go a step farther and consider the universal use of the developing tank, we find, if not a divergence of opinion, at least a difference as to practice. It takes a lot of nerve to drop a dozen valuable exposures—just so many uncoined dollars—into a tank, with the supreme confidence that half an hour later we will be able to extract therefrom twelve perfect negatives. By disposition most of us are fussers and experimenters, and if this were not so but slight advance would be made in the art; while this means that we are always ready to try new things, it also means that we are loath to give up the personal element in our work. We want to see what the developer is doing, and no amount of say-so is going to convince us that the tank is the cure for all exposure evils.

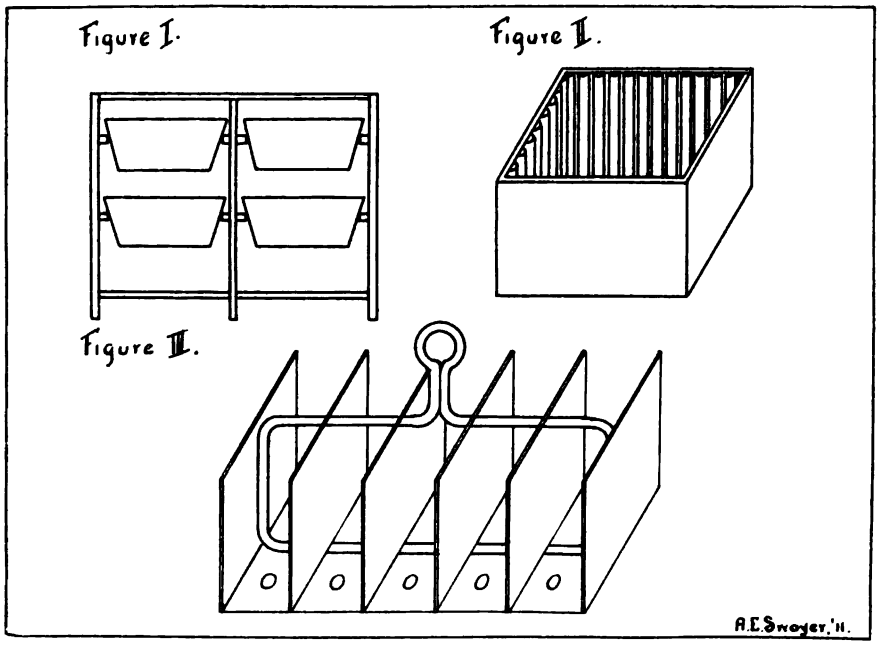
Then, too, there is the chap who develops a negative especially for platinum printing, another way for carbon, and still another for work which is to be enlarged. Taking it all in all, it looks as if a majority of us are going to spend our time rocking a tray under the baleful ray of the ruby light and in the murky atmosphere of the dark room. Before we reconcile ourselves to such a fate, let us consider whether or no we cannot in some way combine the advantages of the tank and of the tray, and in so doing do away with the defects of both systems.

Obviously, this can be done in two ways: Either we can use dilute developer in a tray or we can so arrange our tank that the working of the developer may be observed during its action. If we use dilute developer in the tray, the objection of slowness at once comes up, for if we develop but one or two negatives at a time and each batch requires thirty minutes, it is going to take some time to complete the day's work. Then, too, developer in an extremely dilute state oxidizes readily when exposed to the air, and if we remove our negatives for frequent inspection, fog and stain will be our portion; even when in the developer, the long exposure to the dark-room light while in an open tray is liable to cause trouble, while if we try to save time by using a large number of trays, there is liable to be little room for anything else in the dark room. If we try the tank and fix it up with transparent sides, the two end plates are the only ones which we are able to observe. It looks as if we were in for trouble whatever we do.

The writer uses both a system of trays and a modified tank method, and as results are attained, in each case, with a certain amount of convenience, perhaps he may be pardoned for going a little into details. If the letter "I" appears too frequently, please do not think that an attempt to "preach" is being made, or that I regard myself as a "know-it-all;" I am simply passing along my own experience with the confidence that the reader will be able to adapt my method to his own needs and incidentally improve it in the process.

First, then, for the tray method. We have seen that to use but one

tray takes up time, and to use several takes up space, neither of which items are apt to appear, in any dark room, to excess. I suggest the construction of a cabinet such as is shown in Fig. 1, and which is simply a stand with cleats nailed to the sides for the support of a number of trays, and upon the top of which the ruby light may be placed. The particular advantage claimed is that a number of trays so arranged take up the smallest possible space, are protected from the direct rays of the lamp, and any tray or negative may be inspected or removed without disturbing any other. It is to be borne in mind that the time given for any tank developer provides for very full development; going on this basis, it is obvious that plates may be placed in, say, a thirty-minute developer in the trays and left for twenty minutes without danger even to the weak sisters. We can then leave them without inspection for this period, confident in the knowledge that when we do look there will still be plenty of time to remove suspicious characters to a strong solution, douse them with bromide, or apply any other of the first aids; incidentally, by leaving them alone we minimize the danger of fog or stain and yet retain full control. It may at first appear that this use of a number of trays is not economical of developer, but it is apparent that a shallow layer in each tray is sufficient and that this difficulty is more theoretical than real.



The writer's tank differs considerably from the ordinary commercial article; it is not only cheaper, but allows the fixation and washing as well as the development of the negative without removal from the tank. Incidentally, it is more easily cleansed and permits of a partial inspection of the negatives during development without exposing them to the air. The

above is accomplished by the simple means of fitting a wooden cover to the glass fixing box shown in Fig. 2, and common to every supply catalogue. No loading rack is provided, the plates being slipped directly into the grooves of the tank.

Naturally, this tank must be used in the dark room and kept clear from actinic light until development is complete, but I do not consider this a great disadvantage; in fact, I believe that the dark room is the place for development, nor do I know many professionals who do such work in the reception room. If the plates are put into this tank one or two grooves apart, the appearance of the image may be watched through the glass; if it is necessary, owing to the number of plates, to use every groove, the two end plates should be placed facing out and the development of all judged by the conduct of these two. Very accurate judgment may be formed in this way without the necessity of dragging the plates out into the light every half minute; if the appearance of the high lights occurs after a normal time, the batch may be left for the usual period prescribed for the developer; should "lame ducks" appear, they may be removed for individual treatment.

When development is completed, the solution may be siphoned off (if it is desired to preserve it) by means of a rubber tube placed as shown; water is then poured in to rinse the plates, and the hypo run in in the usual manner; when fixed, the hypo may be siphoned and the plates washed in the same box. If you are one of those who believe that the proper place for hypo is the one farthest removed from the developer, the plates may be removed after rinsing and fixed in another receptacle, in the usual manner. At any rate, the glass tank may be more perfectly cleaned than even the tanks made of nickelled brass.

The professional who does developing for amateurs encounters both films and plates, which, because the tank is the best method for accomplishing such work, necessitates the purchase of an additional tank, especially adapted to films. That is, such a purchase is necessary under the present condition of the market. But if you develop only the film packs or are willing to cut up the roll films before development, you may have an adapter made for your plate tank, which costs but a few cents and will enable you to do all classes of developing in the one piece of apparatus. This adapter is shown in Fig. 3, and consists simply in a wire frame with partitions soldered on, a narrow band around the outside holding the films in place. Before inserting in this holder, the films must be curved into a semicircle, and as in this position they are less than one-half the length of a plate having the same dimensions, it is obvious that two rows of films may be placed in a tank designed for plates of the same size. If this rack or adapter is nickel plated, developing and fixing may be carried on without removing it; otherwise, the films should be fixed in some other vessel.

Although no claim of having introduced any new thing in either method or apparatus is made, the writer believes that the use of any or all of the articles described will well repay the slight trouble caused by their making.

BUY ADVERTISED GOODS

EDITOR FRAPRIE calls attention, in the last issue of *American Photography*, to a point that is too often overlooked by the majority of photographers. This is an age of publicity, and the manufacturer who expects to sell his goods must take his prospective customers into his confidence and tell them all about the good qualities of the goods. The dealer cannot be expected to spend all his time explaining such and such an unknown article is as good or better than something the customer is well acquainted with. Mr. Fraprie's remarks follow:

"In inspecting the stocks of photographic materials sold by leading dealers, it is surprising to note the number of articles which are marketed without trade-mark or advertising. The shelves of every supply store are loaded with goods of universal demand which bear no guarantee of quality or passport to the buyers' confidence. Of course, there are many lines which are thoroughly advertised, such as lenses, and few of our readers would care, probably, to spend the large sum demanded for high-class lenses on the products of a manufacturer whose name was not favorably known to them through his public announcements. There are a few so-called anastigmat lenses sold by manufacturers who do not advertise, but the market for both new and second-hand lenses is practically monopolized by the products of well-known manufacturers, such as the Bausch & Lomb Optical Company, Goerz, Voigtländer, Zeiss, and others familiar to our readers. It is to be noted, in this connection, that the advertising of these manufacturers not only sells their goods for them, but establishes a firm and stable second-hand market. The testimony of dealers in second-hand apparatus is that they are always willing to purchase at a fair price, and can easily sell, the well-known lenses, while makes which are not liberally advertised are worth little if their possessor is obliged to sacrifice them. The moral is obvious: When buying lenses be sure to get a product which is very liberally advertised.

"There are other lines in which the manufacturers have never seen the wisdom of so placing their names before the purchasing public that a photographer would insist upon having their goods. A notable instance is the chemical trade. There are a number of first-class manufacturers of chemicals in the United States who make such salts as potassium bromide, gold chloride, sodas, and other materials required by every practical photographer. While these goods are widely sold and the trade has been considerable, no firm manufacturing them has ever been willing to advertise to the photographic trade. Within a comparatively recent period the folly of this procedure has been made evident. The Eastman Kodak Company adopted a trade-mark and proceeded to place upon the market a full line of photographic chemicals whose purity is guaranteed and whose merits have been advertised with persistence in the photographic press. The result has been that the manufacturers who thought they had a secure market without advertising, have seen the chemical business of the Eastman Kodak Company increase to an enormous volume, and have witnessed goods manufactured by themselves sold under another label at a higher retail price, because

of the guarantee of the Eastman trademark. A profitable field is thus taken from them, and there is little doubt that the sales of the advertised and trade-marked line will continue to increase, while non-advertised chemicals, which may be of as high a standard of purity, steadily decrease in sales.

"From the purchaser's standpoint the great value of the Eastman chemicals lies in the fact that they are absolutely guaranteed as to purity, and the consumer runs no risk of buying inferior goods. Let him take this to heart and reflect that wherever he buys advertised lines he is sure of getting goods upon which the manufacturer can afford to stake his reputation, and let him ask his dealer, whenever he is offered some unknown product, 'Are these goods advertised?' If they are not, it would be better for him to patronize the wares of some manufacturer who has a reputation to sustain and is not afraid to put his name behind the quality of his goods."

THE DETERIORATION OF PRINTS

BY E. F. CORSI

In reading that excellent article by Harold Baker, of Birmingham, England, in the October Wilson, "The Permanence of Photographic Prints," I was forcibly reminded of the fact that only very few photographers give this matter the thought and attention it rightfully deserves.

It is a well-known fact that the deterioration and fading of prints is attributable to *various* causes, and frequently to causes over which the worker has absolutely no control. There may be a latent defect, if I may call it so, in the manufactured article—the paper—as we buy it now in the open market which may *sometimes* be responsible for this instability. On the other hand, manufacturers naturally endeavor to do their utmost to place in our hands a product as near perfect as modern chemistry and manufacturing methods will yield.

One of the most prolific causes of deterioration is undoubtedly the incomplete elimination of the hypo from the print. This statement may safely be accepted as true, and since it is true I venture to say that there is positively no excuse for this state of affairs. Chemistry has placed in our hands very simple means to ascertain whether our prints are sufficiently washed or not, and it takes but a few seconds to verify that question. One printer will tell you in a self-congratulatory manner: "I wash my prints in ten changes of water, and they surely ought to be washed then." Another one will say: "I always wash for fully one hour in running water." Let me tell you, gentlemen, in *either* case your prints *may* be washed thoroughly and they may *not*. Under certain conditions you may be able to wash your prints in just one-half the time or with just one-half the quantity of water, depending altogether on the factors enumerated a little farther down. This being actually the case, why not make *sure* of your work, since your reputation and future business success depend largely upon this item? I hold the view that it is every photographer's implied duty to make his work as permanent as his

materials and ability will admit, and that nothing should be left to guesswork that can be made a certainty.

Some time ago, while conversing with a brother photographer, our talk drifted to printing-room topics, and he, the brother photographer, remarked that he couldn't see any sense in anyone trying to make their pictures permanent. He advanced as an argument that the shoemaker and the tailor made no attempt to make your shoes or clothes last for generations, and that those tradespeople naturally expected their customers to return to them within a reasonable length of time for more goods. I doubt very much whether conscientious photographers generally would be willing to subscribe to that line of logic, if applied to photography. In this respect photography stands in a niche by herself and parallels cannot very well be drawn with any other line of business.

I do not claim any originality for the formula given below—it is old and has been given repeatedly. I only wish to point out the simplest, quickest, and most practical manner of applying it, and wish to say that you may rest assured that the test is sufficiently sensitive for any practical purpose and that it requires much less time to execute than it takes me here to tell you.

Potassium permanganate . .	8 grains.
Distilled water	8 ounces.
Caustic soda	7 grains.

The permanganate must be thoroughly dissolved before the caustic is added, and the latter must be reasonably fresh, otherwise your solution will separate in the course of a few days, rendering it practically useless. The quantity given above will last the average studio from six months to a year or over, since only a few drops are required at a time. Have near your trays or washing machine a 4-ounce graduate. After you have given your prints three or four changes in the usual manner, take 2 ounces of your clean washing water in that graduate and add 12 drops of your permanganate solution. Pick up a dozen or more prints out of your tray and let the drippings fall into the graduate. You will find, even after the fourth change of water, that your test solution will undergo a decided change with only a few drops of this hypo-laden water. The beautiful rose or magenta color will be changed to a dingy yellowish green, indicating beyond doubt the presence of considerable hypo. Continue your washing until the seventh, eighth, or ninth change, and test again, and remember—this is important—*always* use the *same* quantity of water and permanganate for each test. (You cannot expect definite results by using varying quantities.) If your last test solution retains its red color after standing ten or fifteen minutes, you may be reasonably certain that your prints are free from hypo. This red tint should remain even after the graduate is filled up with the drippings to the 4-ounce mark or over. Leaving this solution standing over night, or even for a few hours, you will note a brownish precipitate in the bottom of your graduate or floating in the solution. This precipitate, however, need not worry you in the least as to the thoroughness of your work. It is simply the organic matter which is present in nearly all waters, except distilled, and this matter has been coagulated and thrown down by the purifying properties of the permanganate.

The length of time required for the complete elimination of hypo is

greatly contingent on the following factors: The size of the "batch," the quantity of water used for each change, the temperature of the water, and the weight or thickness of the stock—heavy or double weight papers, owing to their more pulpy nature, absorb more hypo and retain it longer than the single weight stock. Therefore no rule, as to length of time required, can be laid down, and that is exactly what your *test* is for.

There is, however, a means to greatly shorten your labors by carrying out the following suggestions: I have been using this little "wrinkle" for several years, and think that you also will be willing to admit the logic or common sense involved. The tests mentioned above reveal to you the fact that the first four wash waters are still heavily charged with hypo, but there is no *need* to carry this hypo through that many changes only to cause you more work. Proceed as follows: Procure a strip of glass about seven inches wide, preferably double strength, and any length best suited to your individual needs. Place this strip of glass in your sink back of your washing trays and let it stand as near perpendicular as possible. Place a good handful of prints on that glass and let them drain a few minutes, then with your left hand take off that batch while your right hand puts on another one. While this second batch is draining you are separating the first batch by hand; repeat this procedure through the first three or four washings, and you will be surprised to see how much sooner you will get through with your work. You can readily see that instead of the hypo-laden water being transferred to your fresh washing water it goes where it should go—through the waste pipe. Since there are always prints on your draining glass, there will be practically no waste of time.

In conclusion allow me to give you the following few Don'ts: Don't use dirty hypo-charged blotters. Don't use stale paste. Don't continue paying your good money to a printer who has the "Clock Face," one who is continually working against time—don't hire him, fire him. If you want to give yourself the best boost you ever had, or if you want to do yourself a very special favor, put this sign in a conspicious place in your printing and finishing rooms and don't fail to enforce it: "The lazy, slovenly, careless, slap-dash printer will please call for his *time*. We have *no use* or room for him in this department."

PORTRAITURE IN COLOR

BY WILLIAM GAMBLE

POSSIBLY had anyone predicted, say, ten years ago, that the taking of portraits from life in natural colors would become an everyday accomplishment in the photographer's studio it would have been accounted as imaginative romancing, much of the same order as the stories of Jules Verne. Yet the prediction has become as absolutely true as the fact that flying machines, dirigible balloons, submarines, etc., are *un fait accompli*. One can walk into the Dover Street Studios in London any day and have one's portrait taken in color without any notice or any fussy preparation.

The means are there ready at all times for taking the portrait of any sitter who may come along. Further, one may see in the reception rooms of these studios a large number of successful portraits in color that have already been done. Altogether some 2000 screen plates and polycolor sets of negatives have been taken since the studios for color photography were opened.

Those who are "in the know" and have watched the progress of color photography may say that this accomplishment is not so remarkable, since it is quite possible for even the amateur photographer to make quite acceptable portraits in color by means of the autochrome process. True, but the notable part of the accomplishment of the Dover Street studios is that their processes have been sc perfected and systematized that portraits in color can be taken at any hour of the day or night with absolute certainty, since they are all taken with a standardized artificial light. Nor is it necessary that the operation be confined to the regular studio, for at the recent Coronation a room was fitted up at the House of Lords and a large number of Peers and Peeresses, and the great officers of State, were photographed in their robes, the result being a most beautiful series of vividly realistic photographs in color. The portraits are taken instantaneously, the exposure rarely exceeding 1/100 of a second. For example, some wonderful studies of Mlle. Genée have been taken, some of them showing the famous *danseuse* pirouetting "on the light fantastic toe," and though taken while the subject was dancing, are sharp and brilliant in color detail.

The pessimistic critic who sees nothing wonderful now in the production of good screen plates may ask, "What about making prints on paper? It is all very well to make a colored transparency, but what the public wants is the production of prints by the dozen." In answer to that the Dover Street Studios can point to a large number of portraits in color printed on photographic paper just as an ordinary monochrome photograph might be. This part of the process has now been brought to almost the same degree of perfection and standardization as the taking of the color transparency, and every day is bringing about improvement and greater certainty in the results, as the workers in the scientific laboratories at Dover Street become more proficient in the technique of the process.

The production of color prints by means of half-tone blocks is, of course, easy of accomplishment by any photo-engraver doing high-class color work, and much commercial work for showcards, catalogues, posters, etc., emanating from the Dover Street Studios has been printed in this way, but the process is too artificial in appearance, owing to screen, etc., for the production of prints for private use. The collotype process might also be effectively utilized to the same end, and it is perhaps the mechanical process most adaptable to the reproduction of these portraits, since the original negatives can be used, but it suffers from expensiveness and some degree of uncertainty. Color photogravure has been the means of rendering some very beautiful prints, but here again the cost is high and the slowness of the process is also a bar to its use.

For either of these processes the Dover Street Studios are now able to provide a set of four-color selection negatives, taken simultaneously with a screen plate, so that the process man not only has the three-color and panchromatic negatives requisite, as a basis for his reproduction, but he is also provided with the screen plate, as

a guide for the proper rendering of the colors.

Some curiosity may naturally be evinced as to how these three selection and panchromatic negatives are taken. Well, at the Dover Street Studios has been perfected and patents taken for an ingenious camera which takes all the three-color printing negatives at one exposure, a panchromatic printing negative for the gray key, and in registration with the primary color printing negatives, being also obtained during the same exposure by another patented method and in the same camera.

This camera stands alongside the one which makes the screen plates, and the shutters of the two are electrically connected, so that the exposures are made simultaneously. The same action also switches on a powerful set of high-tension sparks which ignite and render highly incandescent a special actinic chemical bath, compounded so as to most effectively render the colors and at the same time give the greatest possible intensity. The light is contained in a large enclosure with gauze front, which gives a most effectively diffused side lighting to the sitter, the shadow side being softened by reflection from a white screen. Various painted backgrounds, curtains, etc., are used to suit the subject. The lenses used on the cameras are of well-known rapid portrait types—a Voigtländer working at F/4.5, a Goerz at F/7.7, and a Ross at F/5.6, but such is the intensity of the light that it is usually necessary to stop down to F/8 or even F/11. The negatives are brilliant and fully exposed, and all of the four are very uniform in color and gradation, showing the perfection of adjustment of the color sensitizing, the color filters and the exposures.

The advantage of taking the three-color selection negatives and panchromatic at the same time as the screen plate lies in the fact that they are available for reproduction by any suitable three- or four-color process, and they are now the means by which real photographic prints in color are produced.

Mr. Aaron Hamburger, the managing director of the Dover Street Studios, who is an expert chemist and has personally worked most assiduously to systematize the taking of color photographs, has now practically perfected this printing process, and already excellent results have been obtained, and daily deliveries are being made of what he calls polychromide natural color photographs.

This printing process has a definite chemical basis, and is controlled by the exposure through the four selection negatives. The yellow print which forms the base of the image is wonderfully brilliant, and has some novel characteristics which it is believed have not previously been obtained by any other process. The image is a true silver compound, and Mr. Hamburger makes claim in his patent application for the acquisition in his first printing, of panchromatic gray plus the yellow components of the image. The application of the red and blue follows. The surface is somewhat like that of a P.O.P. or matte bromide print, and the colors are very rich and pure. The only difficulties at present lie in the training of a large number of operatives to control them so as to give just the requisite amount of each color to form a harmonious print. It is confidently expected that the desired uniformity of results will be soon attained on the large scale necessary for the demand already created, and that it will soon be possible to produce one, or a dozen, or a hundred, quite acceptable prints with equal facility, and within a few

days of receipt of orders. Every day's experience brings fresh knowledge to bear on the subject, and the patient research and practice that is constantly going on must eventually overcome such difficulties of cheap and rapid production as will be necessary to make the process a commercial and universal one.

Mr. Hamburger is to be congratulated on the thoroughness he has displayed in exploiting this idea of portrait photography in colors, which he has made his hobby as well as the business of his life. He has received many congratulations from his numerous eminent sitters, among whom he has numbered H.S.H. Prince Alexander of Teck, the Duke and Duchess of Wellington, the Duke of Newcastle, the Gaekwar and Maharanee of Baroda, the Princess Indira of Baroda, the Princess Ibrahim Pasha, the Earl of Aberdeen, the Earl of Crawford, the Earl of Erroll, the Countess of Erroll, the Earl of Selborne, Viscount Curzon of Kedleston, Viscount Esher, the Marchioness of Lansdowne, the Marchioness Townshend, the Countess of Rosse, Lord Avebury, Lady Desborough, Countess Dundonald, Countess Kinnoull, Madame Sarah Bernhardt, Madame Melba, Madame Réjane, Madame Clara Butt, Mlle. Adeline Genée, and Madame Pavlova.—*Penrose Pictorial Annual*, 1911-12.

PRESS PHOTOGRAPHY

BY THOMAS KITTO

(Concluded from December, 1911, page 574.)

A knowledge of flashlight photography will also prove occasionally helpful to the press photographer. The many handbooks and articles that have been published on the subject should be studied, and the various methods practised; but, as previously stated, it is assumed that the grammar of photography is known to the operator for the press, who will waste no time calculating exposures, making adjustments, etc., or in any way distracting the thoughts from the object in view.

Before leaving the subject of apparatus a final hint will be not amiss, and that is, never start out with the intention of securing photographs for the press without giving an overhauling to the outfit and seeing everything is in good working order. In addition to this, also, see that everything is ready in the darkroom for use on return—chemicals, dishes, papers, etc., in their proper places and to hand for immediate action.

The Kind of Negative Wanted

The "news" photograph that commands the best attention from editors of illustrated papers is of the bright, clear snapshot type, full of vigor and detail. Well-exposed, brilliant, and "plucky" negatives should, therefore, always be obtained for the purpose if possible. The out-of-focus or thin, flat negative stands very little chance, unless it is unique, in which case a print from it, no matter how poor, will, at the hands of the retoucher and process-block maker, become quite presentable when published.

The ideal negative should, of course, be a quick printer; that is, not too dense. Pyro, although an admirable developer for most purposes, is not to be regarded with special favor in

the present instance; first, on account of the yellow stain it gives; and, secondly, because it is unsuitable for stand development, or development that calls for little attention in the way of rocking.

Quick Development

If many plates have to be developed at once, vertical development in a grooved porcelain trough, instead of in the usual developing dishes, will be found the quickest method. A dozen or more can be treated in this manner—according to the capacity of the trough—in the same time that would be occupied in developing one in the ordinary way. If only two or three plates are being developed they should be placed in a large flat developing dish side by side, but with more than four the grooved trough is more convenient.

In either case, the plates, when taken from the plate-holders (and after being smartly tapped on the back to remove any adherent specks of dust), should be plunged straight into the developer, which ought not to be stinted. After they have all been well covered, each plate should be removed and gently swabbed over with a plug of cotton soaked in the developer. This will remove any small air-bells that may have formed on the surface.

The dish or trough is now covered over to protect it from the ruby light of the darkroom, and after the expiration of a minute or two the plates should be examined. As soon as development is complete, each plate is rinsed in plain water and placed in the fixing bath (8 ounces hypo to pint of water).

The most convenient form of fixing bath for plates is the grooved lead tank. This is similar to the grooved porcelain developing trough, and holds as many plates. The negatives fix very rapidly in this bath, and, as soon as fixed, should be promptly taken out for washing and drying.

A Useful Formula for Developer

A note or two on the developer best suited to the purpose in view may be useful here. Bearing in mind the quality of the negative required, a developer of the metol hydroquinone type at once suggests itself. The following three-solution developer, used by the writer for a great number of years, will be found of general utility, and very reliable for almost any make of plate:

A

Hydroquinone . . .	160 grains.
Sodium sulphite . .	2 ounces.
Warm water . . .	20 ounces.

Dissolve the sodium sulphite in the warm water and then add the hydroquinone.

B

Metol	130 grains.
Sodium sulphite . .	3 ounces.
Warm water . . .	20 ounces.

Dissolve the sodium sulphite in the warm water and then add the metol.

C

Carbonate of soda (washing soda)	3 ounces.
Water	20 ounces.

For use with a normally exposed plate, use equal portions of A, B, and C. If development is being conducted in the grooved trough before referred to, dilute the mixed developer with an equal bulk of water.

If under exposure is suspected, the developer should be made up with half the quantity of A. If over exposure is apparent, use double the quantity of A and add 10 to 20 minims of a 10 per cent. solution of bromide of potash to the ounce of mixed developer.

This developer acts quickly and should always be used, if possible, at

a temperature of 60° or 65° F. It gives plucky negatives of a good black tone, and by suiting its different constituents to the exposure almost any variation of defective exposure can be compensated for. The hydroquinone and carbonate of soda alone, with the addition of bromide, tend to give hard negatives, while the metol and carbonate alone, without bromide, give soft negatives, and as a developer for excessive under exposure is equal to rodinal or any other developer specially recommended for the purpose. It is also a capital developer for bromide and gaslight papers.

Saving Under Exposures

A good tip worth remembering when developing very bad cases of under exposure, which are bound to occur at times, is as follows: After the plate has been in the normal developer for a minute or two, and only the high lights and faintest trace of shadow detail are visible, if the negative is of an important event that cannot be reproduced, it may be saved by exposing it to white light for a second or two, or by holding a lighted match over it for a few moments, while still in the developer. Instead of completely fogging the plate, as might be imagined, reversal will take place, and a complete, and in many cases plucky, *positive* will develop up, showing a wealth of detail that would appear to have been impossible to obtain had development been continued in the ordinary way. After drying, a good negative can easily be made by contact from the positive, and prints obtained from this negative will show little trace of having been obtained from such a bad exposure.

Washing the Negative

After the negatives have been developed and fixed the question of speedy washing and drying presents itself. In cases of great urgency a rinse under the tap for about three minutes removes enough of the hypo to enable a piece of bromide paper—previously wetted—to be squeegeed down to the wet film and printed straight away without the use of a printing frame. In fact, many prints can thus be taken from the wet negative, but great care must be taken or the delicate film will be injured. The better plan, however, is to wash and dry the negative as quickly as possible, as then any kind of printing process can be employed.

It should be borne in mind that thorough fixation is of more importance to the subsequent life of the negative than prolonged washing. The fixing, therefore, should be thorough, and, subsequent washing of the negative for ten minutes in frequent changes of water, or vertically in running water, will insure practically all that can be desired in the matter of hypo elimination.

Quick Drying of Negatives

From the washing tank the negatives should be taken and the surface very lightly squeegeed with either the palm of the hand (remove the rings from the fingers), or with a very soft squeegee to clear off the superfluous water. They can then be gently blotted with fluffless blotting paper or with a soft cambric handkerchief.

Three dishes or troughs of clean alcohol are now required. Two baths can be made to do, but three will considerably hasten matters.

The negatives are placed one by one

into the spirit and allowed to stay for about two minutes. As each plate is taken out, it is rapidly waved about until surface dry. This occupies about fifteen seconds. It is then placed in spirit bath No. 2 for a minute or two—taken out and waved until dry as before. On withdrawal from bath No. 3, the waving process will leave the film quite hard and dry, and ready for printing.

Rapid drying of the gelatin film can also be accomplished by the aid of formalin. The negatives are taken from the washing tank and placed into a bath of 10 per cent. commercial formalin (40 per cent. formic aldehyde) for five minutes. They are then blotted and can be dried in front of a fire without risk of melting the film. The formalin can also be added if necessary to the fixing bath, and the effect is the same.

An even quicker method that the writer has seen advocated, but has not tried, is to add formalin to the fixing bath in the proportion of 1 ounce commercial formalin to each pint of hypo solution. Then, after fixation is completed, the negative is plunged into hot water for a few minutes. The hot water has the effect of quickly removing the hypo, and on withdrawal the heat of the glass dries the film at once.

The total time occupied from the withdrawal of the undeveloped plates from the dark slides to the final drying of the finished negatives ought never to occupy, if all goes smoothly, more than one-half hour. If an intelligent assistant can be obtained so much the better, especially if a large number of plates is being dealt with. Division of labor in the production of speedy press pictures is very desirable, and this will be found more so in the production of the prints than when dealing with the negatives.

The Kind of Print Necessary

When preparing prints for reproduction in half-tone the blockmaker must receive consideration, and plucky prints with plenty of detail and a smooth or shiny surface are preferred. The prints should not be too glossy nor yet on a rough paper. Good albumen prints toned to a "photographic purple" are probably first favorites; then gelatino-chloride P.O.P. toned to a bluish black comes second, while good platinotypes and smooth surface bromide and gaslight papers are also favorable.

P.O.P. and glossy bromides, or gaslight papers, are, however, likely to be worked by most photographers, and will therefore be considered here, particularly when the exigencies of the work are taken into question. Self-toned papers are expeditious to use, but the rich brown tones usually obtained, although very beautiful, do not, as a rule, appeal to the process man who wants a colder color to obtain the best results.

For very quick production everything points to prints by artificial light, but if there is time and plenty of good daylight, albumen or P.O.P. should be employed in preference to bromide paper or gaslight papers.

Rapid Toning of P. O. P.

If P. O. P. has been used, and not a great number of prints are being prepared, the following method of brush toning will be found quicker than the usual toning bath.

Prepare the following solutions in advance: Sulphocyanide of ammonium, 10 per cent. solution; phosphate of soda, 10 per cent. solution; borax, saturated solution; gold chloride solution, 15 grains, in 15 drams of water.

A piece of glass larger than the prints to be toned (a cleaned whole-plate answers capitally for half-plate prints), a measure glass, and a large camel-hair mop are all the other necessaries.

The toning solution is made up as follows: 3 drams sulphocyanide solution, 3 drams gold solution, 3 drams phosphate solution, and 3 drams borax solution.

The print is placed dry upon the piece of glass, which should be quite clean, and one corner put into the measure glass containing the above toning mixture. The glass plate is held by the opposite corner, and the camel-hair mop, fully charged with the toning solution, is rapidly brushed over the face of the print until the whole surface is wet. The toning action takes place so rapidly that each passage of the brush leaves a toned streak behind it, so care must be taken to swab the whole print as quickly as possible, although it does not appear that toning with this formula gives uneven or double tones. A general evening up takes place until the whole print is of a uniform purple brown color.

The surplus from the brush runs back into the measure glass containing the remainder of the solution, and the other prints can be quickly dealt with until the bath is exhausted.

It must be borne in mind never to press on the surface, or the gelatine will be scratched. It is merely necessary to lightly paint the tones over the print, and use plenty of solution.

As each print is toned it should be placed into a dish of clean water, until the entire batch is completed. They are then transferred to a fixing bath, composed of 4 ounces hypo to a pint of water, and fixation will be complete in about five or six minutes. As the procedure for washing and drying the prints is the same for both P. O. P. and bromide prints, the production of the latter will be dealt with first.

Expeditious Bromide Printing

The various brands of glossy bromide paper on the market will be found most generally useful for quick proofs for the press. Matt surface papers are not looked on with so much favor, unless a large amount of working-up is necessary prior to making the block.

Assuming that one-half dozen negatives are ready for printing, and it is required to make one-half dozen sets of prints from them ready for the post in as short a time as possible, the following method employed by the writer will be found expeditious:

If possible, an assistant should be requisitioned, as here, in particular, division of labor results in a great saving of time. The darkroom should have plenty of yellow light. The amount of bright light filtered through yellow glass or fabric that can be safely used with bromide paper, would probably astonish the average amateur. Some reliable method of producing white light at will should also be at hand. Electric light is, of course, a great convenience if installed, as it can be switched on and off instantly. If gas is used, a reliable by-pass is extremely useful for the purpose. In any case, have a get-at-able source of actinic light at hand for exposing—inside the dark-room if possible—as nothing tends to waste time more than having to constantly open and shut the dark-room door for exposing outside.

If half-plates are used, the size of paper described as "Special Cabinet," measuring $4\frac{1}{4}$ by 6 inches, is most convenient to use, as it saves trimming, and it is cheaper than full half-plate size. In the present case three packets are opened in the yellow light, and the

contents placed in an empty plate box; six printing frames, containing the negatives, and another plate box are now necessary. The six frames are filled, the paper quickly adjusted to the negatives, and the backs put in. They are now arranged in a semicircle around and at the same distance from the light that can be turned on when wanted, and the exposure is made.

If the six negatives are all of the same printing density, which will be very likely, one exposure serves for the lot. If not, the thinner ones should be placed at the end of the semicircle near the operator, and as their time for full exposure arrives they are laid face downward, and so on until the densest negatives at the further end has had a full exposure. A beginner will find it necessary to test each negative for correct exposure, but the more experienced bromide worker will be able to judge the time almost by instinct.

To be on the safe side, however, it would be as well to verify these first six exposures by developing them forthwith, and any slight adjustment can then be made with the remainder.

Wholesale Development of Prints

As soon as each batch of exposures is complete the white light is turned off and the pieces of paper placed in the second plate box, which should be marked, so as to distinguish it from the box containing the unexposed paper.

The process is repeated until the desired number of exposures have been secured, and then preparations are made to develop the lot.

Three large developing dishes are required. One to contain the developer, another plain water, and the third the fixing bath (4 ounces hypo to the pint of water). The prints are taken in twos from the box and placed back to back. If an assistant is at hand he can do this part of the work, and the prints can be slid in couples into the developer. If no assistance is to be had, it is as well to have another dish, containing plain water, and the prints are put into this before going into the developer. When thoroughly wetted, they are placed still in couples, back to back, into the developer, and as many pairs (treating each pair as one print) handled as is convenient. They are turned over and over, and as soon as development is nearly complete they are placed into the other dish containing water.

The last one-half dozen pair can be fully developed, and these, with the others which will be found to have completed development in the plain water, can now be transferred to the fixing bath, where they must remain for about five minutes and be constantly turned over and over to avoid sticking.

(To be continued.)

Washing and Drying the Prints

The fixed prints are washed in the usual way, preferably in a print-washer in which there is a good flow of water, or they can be treated to several changes of clean water for from five to ten minutes. Prolonged washing is unnecessary, as permanency is of small account with these prints of the moment.

On removal from the washing water, the prints—both bromide or P. O. P. —are quickly blotted with fluffless blotting paper, taking care not to let them stick, as the surface is very "tacky" now. They are then treated with Columbian spirit in practically the same manner as described for drying negatives. Instead of waving them about, as with plates, the prints should be lightly blotted after each spirit bath.

By MRS. G. W. SUTTON, New Rochelle, N. Y.

By Mrs. G. W. Sutton, New Rochelle, N. Y.

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1. Mrs. Pickering
2. Capt. Anthony
3. Mrs. Wm. Jackson
4. John Randolph

Illustrating Sidney Allan's Article

5. Miss Nancy Penington

Illustrating Sidney Allan's Article

6. Hon. J. Mason

7. Mrs. Mason

Illustrating Sidney Allan's Article

8. The Marchioness

9. The Marquis

Illustrating Sidney Allan's Article

MASTERS IN PORTRAITURE—GILBERT STUART

BY SIDNEY ALLAN

WITH the exception of Sargent, Gilbert Stuart is without doubt America's foremost portrait painter. It must be gratifying to believers in American art to know that a native of Rhode Island as early as the Revolutionary War painted as fluently and masterly as any of the later men.

Stuart is known to the general public principally through his numerous portraits of President and Mrs. Washington. As a young man he had gone to England, and there had still met personally the great exponents of the English school—Reynolds, Gainsborough, Lawrence, Benjamin West, and Raeburn. From these masters he acquired his sureness of touch. Few painters have ever produced masterpieces with such simple means and certainty of aim. He had no ambition beyond being a portrait painter, and, besides a few full lengths and half lengths, painted nothing but bust portraits. The head was the main thing to him. He did not care for any particular lighting, but used the ordinary top light, which reveals the features in a cool diffused light without heavy shadows. Nor did he indulge in any special variety of attitudes and poses, but used with preference the three-quarter view and the pyramidal idea of composition. He knew the construction of a head, and painted flesh with admirable skill. His flesh painting reminds one of Rubens and Ettie, it is so fresh and transparent, so full of warmth and vitality, but it also has the same shortcoming. Stuart gives to all sitters, old men and young women alike, a peculiar rosy complexion, absolutely untrue to the average flesh tints we encounter in daily life and society. It was a sort of idealization, denoting health and energy, which at times, however, refuted its own purpose. His Washingtons, with pink nose and cheeks, look a trifle effeminate. Of course, we do not notice this deficiency in the reproductions, and it is only their black and white effect which concerns us. A study of his heads reveals two striking faculties. The accuracy of drawing in paint (the lines in his paintings are all produced by juxtaposition of tints, not by actually drawn lines, and in that way bear close resemblance to photographic texture) and the gift of conveying character and facial expression. His portraits impress us as being typical, one might say composite, delineations of character; they are the résumé of a gift of keen observation that understood to combine conventional and accidental traits into one permanent individual expression.

Not unlike many painters, he was curiously uneven in his work. His portraits of Mrs. Pickering, Captain Anthony, and Miss Nancy Penington. Figs. 1, 3, and 5, are masterpieces, while Figs. 7, 8, and 9, are very indifferent productions. Fig. 1 is truly a wonderful composition. With what little effort the face is modelled, and yet how clearly it reveals a character, noble in bearing, quiet, reserved in manners, and sweet and amiable in disposition. Notice with what precision the whites and blacks balance each other. Rarely has an ermine-bordered mantle been endowed with such picturesqueness of effect and grace of line. And nothing looks forced; everything seems to have been

done with perfect ease and unerring skill—the drawing of the trimming of the lace cap, the posing of the hand, the folds of muslin about the throat, and, above everything else, the facial expression of gentle calmness. Also the background with its architectural note, suggestive of an old Colonial mansion, is peculiarly fortunate. Stuart did not always excel in backgrounds. His plain backgrounds in Figs. 1, 2, 3, 6, and 8, are masterly, but one had to be a fanatic admirer of his work to bestow the same praise upon his more elaborate backgrounds in Figs. 4 and 5. No doubt this is a reminiscence of the English school, but it is badly applied. The window idea cannot be handled in such a slipshod manner; its division of light and dark may repeat the dominant line of the figure, and in that way reveal some forethought, but was it necessary? Would a simple background not have looked just as well, or better (viz., Figs. 4 and 5)?

The portrait of Mrs. William Jackson (Fig. 3) clearly shows that minute rendering in detail is not necessarily a dangerous element, as tonalists seem to think. The turban and ruffles are one of the most pleasing attributes of this picture. It is the discreet way in which they are handled, for despite the loving care that has been bestowed upon them, they are perfectly in place. This is largely due to the fact that the whole arrangement, face, gown, and headgear, are as a light middle tint. This made detailed drawing possible without injuring the effect of the face. A large plane of a uniform tint will stand any amount of embellishment if the same is executed in the delicate shades that are closely related to the color value of the tint itself. The curls of dark hair and the background produce the necessary contrast (and a most delicate one) to this arrangement in light gray.

That Stuart could also delineate such character is proved by his Captain Anthony (Fig. 2). It is remarkably lifelike. It almost looks like an old acquaintance, and we would not be astonished if this Philadelphia shipbuilder of another century, "prominent and highly esteemed," would suddenly confront us. Only the very best of portraits produce such an impression. It is astonishing how a face can be drawn with such soft, blurred lines. The whole face is diffused with light, and yet there is the feeling of roundness and construction. There is, perhaps, too much white at the lower margin, but so long as the painter wanted to show the hand, it was a clever device to place the hand on a heap of letters and to connect the two bright spots of interest, the face and the hand, by the white waistcoat. Here we have again one large light plane within a darker area, produced by the coat and background. The latter has a peculiar vibrancy, which is caused by the canvas showing through the thin layer of paint.

In Figs. 4 and 5 the poses are more animated. There is a greater variety of values. In the John Randolph portrait the dark velvet collar and cuff have been used as the strongest accents. They put life into the whole composition. The attitude of the young politician is natural and picturesque and the face shows the usual characteristics of Stuart's gift of interpretation: No lines, even and most luminous lighting, rotundity despite a certain flatness of treatment, and the depiction of a character that seems to be overflowing with sympathy, candor, and genius. The figure of Nancy Penington (Fig. 5), depends more on drawing than any other

picture we have discussed. The rendering of the lace, the openwork border, the chain and miniature is as minute as it is refined. Even more beautiful is the drawing of the face and hand. It furnishes a glimpse into the character of a young girl, no doubt most lovable in disposition, who died at the early age of twenty-one. Is there not something in the face, and in the hectic flush of the cheeks, that tells of a secret disease and premature demise? The high waist produces a rather awkward line in the right lower corner, but it was the costume of the period, and no doubt did not look awkward at that time. Now, it is necessary to explain the why and wherefore; when Stuart painted it, all ladies wore the empire costume, and the eye was used to the peculiar lines and folds it produced.

Figs. 6 and 9 are inferior works of the painter. The portrait of the Hon. J. Mason (Fig. 6), is undoubtedly the best. It is handled with the master's usual simplicity. He has painted many portraits like this one, and it is perhaps for that reason that we cannot grow enthusiastic over it. It is made too much after a regular pattern. The backgrounds in Figs. 7 and 8 are bad, too restless, and the ladies depicted in Figs. 7 and 8, look—pardon the word—too squatty. And "The Marquis," Fig. 9, is the one picture among these illustrations that looks affected.

Peculiar is the size of these pictures. They are examples of the so-called kit-kats, canvases thirty by twenty-five inches, or in other words, carrying out the unusual dimensions of six by five. The size is too square, unwieldy, for any touch of composition. Stuart had a preference for queer sizes, all his canvases seem to be a trifle wide, usually six by four and one-half. Very likely he made this selection as he favored the pyramidal shape; it gave him more width, and thereby more freedom in the placing of hands, gowns, and accessories. But it proved a decided disadvantage in the kit-kats. The figures look cramped.

This, however, is a minor shortcoming. Stuart was careless at times; he slighted many things in his more careless work, but whenever he was at his best he was a master. In the bright color and clear facial expression of his portraits the men and women of the past live again, and charm us with the intimate grace of their personality.

SOME HINTS ON PHOTOGRAPHING TABLES

BY A. B. STEBBINS

[To portray the human face may be the quintessence of professional photography, but there is a lot of business to be done by photographing the inanimate and humble dining table or any other article of commerce. The following practical and able article by Mr. Stebbins is reprinted from the *American Annual*, 1912, to the Publishers of which we are indebted for the use of the illustrations and the article.—Eds. W. P. M.]

In hopes of helping some photographer who, working alone, has no chance to consult an expert, or is in despair over the meager literature on the subject, I contribute these notes,

which are the result of experience under the above conditions. I wish to say that I have met with quite a measure of success in that most important point—of suiting my customers—who, like all furniture men, are very particular, and will scarcely believe that any photo does justice to their work. One reason for this is that their travelling men blame the photo for any slackness of sales from it, and, *vice versa*, give the picture credit of a good seller, although neither may be correct.

Find out by all means in your power just what your house wants, and then do your best to fill the bill. It is not unusual to make negatives to suit some one drummer. One of the best selling tables made by the firm I photographed after consulting with their New York agent. The firm thought, and I also, that the result was not so good, but the pleased salesman made a big success of it. Endeavor to have their most expert man help pose the tables, and keep in mind he carries a large line of photos from many different houses, and he has the opportunity to compare your work. The comparisons will be odious for either you or the other fellow.

Let us now proceed to pose a table, say a pedestal extension dining table. The first point is the height of the camera, which will depend on the focal length of your lens, the longer the focus the farther away and higher you will have to place the camera. Your furniture man will want the table top to look rounder than the natural perspective taken from the usual height. Some accomplish this by tilting the table, but one is apt to overdo that. It also cuts off light somewhat from the pedestal. If you raise the top alone it distorts the table. If you block up the back legs, that will distort them, making them look too high up in the air, and cut off too much of the pedestal, also foreshorten the whole lower parts.

We make all sized tables to fill the photo, a 40- to a 55-inch top being the same size, so you realize the proportion of the pedestal to the top is a very large problem to consider, and has caused much discussion in my studio. Often all the members of the firm and what salesmen were at hand are needed to settle the question. It is obvious that too large a top will make the pedestal look small and the whole table too low and flat, while too small a top makes a tall, spindling table with too large a pedestal. The more sensible way would be to take each size in its proper proportion all the same distance from the camera, but as this won't go, the happy medium must be found in each case.

How shall we set the pedestal is the next question. In a cheap table, with legs of say three thicknesses of seven-eighths stuff, do not set the front leg edgewise to the lens, for it will make them look too thin, although doing so would give a spread to legs that some salesmen like, and insist upon. He will be apt to be disappointed, for he likes to make out that his cheap tables have a lot of lumber in them. In elaborate and carved bases the most important point is what position will show the carving best. Even here do not forget the relation of the pedestal to the top. (See illustration No. 1.) Had one of the "graven images" been straight front, the carving would have looked more elaborate, but the whole pedestal would hardly have been covered by the top and the photo been absurd, although it is a large top. Ordinarily I try to make the whole look symmetrical (see illustrations, No. 2 and No. 3, which are posed to show equally the four legs). The proprietor's taste

is the final law; nevertheless the above considerations of proportion and symmetry produce that indefinable something which makes the picture a success.

Now let us put on the top. The top and apron are sawed in two parts for extension. Do not place the top with this cut endwise to the lens so that it will show. They will reject

FIG. 1

it every time if it does. Notwithstanding, you can get finer effects in the grain by placing the wood endwise to the camera; see that the top is level. By the way, no tops are fastened on. Measure the top on each side from the pedestal. The eye will not be correct enough. A quarter of an inch will show it one-sided. Have your furniture man run his hand up the pedestal to where he wants the top to cut it off, then while you look through the camera have him shove the top front till it cuts off right. This and height of the camera will give that low, massive appearance so loved by salesmen. I get the lens of my camera 5 feet from the floor, and it is 26-inch focus.

Lighting. Have a large white muslin cloth to cover the floor and run up the background 4 or 5 feet. After placing the table take a strip of black calico and pin it on the background just low enough to come within an inch or so of the top when looking through the camera. This is to cut off any reflected light from the back-

ground on the table top; an important point, hang a large white cloth 6 to 7 feet high and as wide on the wall opposite the light. I also have a cheesecloth head screen 6 feet wide, which runs on wires just high enough to clear the head, extending clear over the table to the side screen and to within 4 feet of the light, where it drops down to the floor. I will further explain that I work in a room 15 feet wide with a single slant light 9 x 12 feet.

lens, shut one eye, and if you can see any light spots or reflected light do all you can to correct them by your skylight curtains. I usually cut off the lower half of the light, even with the cheesecloth intervening, and often hang up an opaque curtain between to balance up the light on both sides of the table.

Before exposure a few words on faking. I do as little as I can; some try to fake up the whole thing, but generally make a failure. If you think

FIG. 2

The most important thing in lighting is to unlearn all that you have been taught about portrait lighting, to work and learn to see when you have an absolute flat or diffused light. I have two small side screens which I use to correct as near as I can any lack of light on the front of the table, often working as near into the range of the lens as I can. Even with these you will see that I get shadows in the front. Now get in front of the

that some dark piece of wood or some part in the shadows needs the grain or flakes lightened up, put on a little whiting with a large paper stump very carefully and delicately, and with a camel's-hair brush blend it off, examine the effect from some distance, and continue to blend off till the whole is harmonious, being sure that the part worked up will not take lighter than the rest of the table. Remember that you are using white and that

there is no white in the table. In carvings and ornamental work, with a stump and a little crayon sauce work in the lines that will not show up strong enough, especially in the shadows, and so bring the work out in bold relief.

I forgot to say that one of the best things to do is to wipe off the table with a rag, wet with turpentine, or better, a mixture of half kerosene, half benzin (the latter will cause the varnishes to kick); this will brighten the grain a lot. Better than all faking is to have the wood stained and filled right, and carefully selected to harmonize in color and grain. I could say much about staining and filling, but that belongs to the furniture manufacturer; kick on all pieces such as carvings, table legs, etc., where the end of the wood is filled a dozen times darker than the rest, for it can be avoided by putting on the filler to the end of the grain and dipping the end into a very dilute stain. This can be done so neatly that the piece will be the same color all over. Lay a piece of white paper on your table, consider how much lower in value are the yellow flakes that are to be your high lights, the narrow scale between them and the brown of the filler, which are to be your blacks, the flatness of the lighting, the necessity of detail in the shadows and high lights, the possibility of any part being too strongly lighted, a stray gleam of reflected light, the top cutting off the light from the base—all these factors make the margin of correct exposure very short. Expose for detail in the shadows and develop for brilliancy, using the minimum of carbonate of soda with a dose of bromide. Develop fully; if need be, reduce. Under exposure or under developing I never could correct by intensifying. I sometimes do some local reducing, as there is no back-

FIG. 3

ground to be careful of. It can be done with a small sponge wet with a weak solution of Cramer's reducer.

I varnish with an alcohol shellac varnish and block out with Gihon's opaque. I know that this is old-fashioned, but if I overrun a line I wipe it off, and taking a clean, damp brush wipe out little irregularities or soften a line that needs it. Use a ruling pen for all straight lines, cut off ends and wipe out corners with the damp brush, block out about half an inch from the image, have some pieces of tissue and black paper that the D. O. P. came rolled in, cut the size of the negatives, daub a little paste on the corners of tissue and stick on glass side of negative; put in retouching frame, trace image and while the paste is still wet stick on black paper; trim out with shears and paste black paper on negative. This is a quick way to block out a series of negatives. I also have a very thin varnish that I flow over to hold the opaque, which is made by putting a few drams of white hard varnish into a 1-ounce bottle and filling with benzin. Faking on the back of negative is very limited, occasionally the lower part can be covered with tissue but not often, as it is too strong. More often you can varnish and grind with pumice stone over the parts that need it, adding a little black lead rubbed on with the finger.

For prints I use D. O. P. entirely for blocked-out work where you must have clean whites. Expose fully and do not force the development. I use as little iodides as I can get along with, and put it in only as I need it, as it gives bluish tones, and I think that the developer fogs quicker with it. I find Argo soda a necessity when prints are running a little flat or have a tendency to fog, putting in 15 to 20 grains to 20 ounces of developer; it has saved me lots of prints. Do not overwork your developer. The above quantity will run twenty to twenty-five 8 x 10 prints. In using roll paper it curls badly, lay the print face down, put both hands on the middle and slide them out to diagonal corners, catch hold with thumb and fingers, roll the hands inward, curling the paper backward, slide face down into developer, patting down, keeping it under till the curl is out enough to turn over; take a look for bubbles, turn back till nearly done. By this method you can use a good light and save prints from fogging.

I consider Ortho plates and a ray screen a necessity, and use Cramer's medium, Ortho and Isos III screen. Some workers claim to work successfully with slow plates, but I have always got too much contrast; they may be all right for furniture that can be lighted evenly, but a table is the most difficult piece of furniture to photograph.

Repairing Enamelled Dishes.—When the enamel becomes chipped, as it often does, at a corner of the dish, and the metal rusts into a hole, it is a very difficult matter to make a good job with solder, as the enamel must first be scraped off to expose a clean surface of metal. The leak can, however, be quite satisfactorily stopped with sealing wax, without any preliminary cleaning. The wax is first dropped inside the dish, allowed partly to set, and then firmly pressed down so as to force some of it through the hole. More wax is then applied to the outside, allowed to set, and pressed down in the same way. This makes a perfectly watertight job, and can be done in a few seconds by anyone.—S. J. T.

PHOTOGRAPHY AND AËROPLANES

BY CHAS. G. GREY

ONE of the most fashionable illustrations of the day is naturally a picture of an aëroplane or an aviator, but while the aviator is, as a rule, fairly easy to catch and photograph, the aëroplane is somewhat more elusive.

In the course of the last couple of years, during which I have, for my sins, been employed in journalistic work connected with aviation, I have incidentally taken some few hundreds of photographs of aëroplanes and their pilots, my cameras ranging from an ordinary kodak, using the ordinary kodak shutter, to a half-plate "speed" kodak with a focal-plane shutter and a fairly fast lens, and thence to a 5 x 4 Goerz with the most rapid of lenses, and I find this last by no means too fast for the work, especially during the past summer, during which the weather has been of the worst possible quality for aëroplaning.

The trouble is that though an aëroplane can fly in quite a stiff wind, provided that wind be fairly steady, the one thing that makes flying most dangerous is great heat, and during the last summer the blazing sun pouring down on the baked ground has sent up vertical currents of hot air which have made flying in full daylight practically suicidal.

The natural result has been that flying has been practically impossible except very early in the morning, or till quite late in the evening, when the sun has lost nearly all its power and the earth has had time to cool down to something like an even temperature. Incidentally, the sun in losing its heat value has also lost its actinic value, with the result that quite a number of my photographs had been taken after 7 P.M., which is by no means an ideal time for such work.

Even for taking ordinary portraits of the aviators themselves the light has been extremely bad, for if one took them into the sun they screwed their faces up till they were unrecognizable, and if one tried to take them into the shade, one could never get the right quality of diffused light, and we never had during the whole summer any of those beautiful, still, gray days, which are supposed to be characteristic of English weather, when there is no wind, and when the sun is giving a beautiful diffused light through strata of fairly thin clouds very high up. I know quite a number of enthusiastic photographers, amateur and professional, who have gone to Brooklands, near Weybridge (which is the leading British aviation ground) on what they consider to be ideal summer days, and have come away horribly disgusted because no machines appeared till it was too dark for them to do any good.

However, now the summer is over we shall have our chance again. In the autumn, winter, and spring a windy day is really a windy day, and one knows that there is not likely to be any flying. On the other hand, one gets plenty of comparatively calm sunny days with just enough cloud about to give a diffused light, and one has machines flying practically the whole afternoon. Another comfort for the photographer of aëroplanes is that now the men can fly so much better than they did a year or so ago, they habitually fly quite close to the

enclosures, so one can get quite decent photographs of them at comparatively close quarters, whereas not so very long ago they kept out so far in the middle of the ground that unless one had a telephoto attachment to the lens one practically had no chance of getting a photograph of reasonable size.

Aviation has certainly been making vast strides in this country lately, despite the continued apathy of the Government, and a proof of this is seen in the fact that at Brooklands on the second Sunday in October there were no fewer than eighteen different aviators and one aviatress all flying in the course of two hours, between 4 P.M. and 6 P.M. This number is not only greater than ever anyone saw at any of the much boomed aviation meetings last year, but it is actually greater than the entries at most of them, and, of course, a number of entrants never flew. Cross-country flights are also becoming quite common, and it is really quite wonderful how soon a man who has never been off the ground in his life can get accustomed to being several hundred or several thousand feet up in the air.

Of course, there is a certain amount of danger attached to aviation, but the danger is really no greater than the danger of hunting, horse racing, or yachting, and nothing like as great as the danger of alpine climbing. As in all other sports wherein there is a spice of danger, one has to be sensible, and not take unnecessary risks or play silly tricks. Almost all the men who have been killed aëroplaning up to the present have either been known reckless fliers or else hopelessly ignorant of their machines and what they could do. There have been, of course, a few genuine accidents, but these are getting fewer and fewer day by day, as manufacturers of aëroplanes get to know more and more about the theory of flying machines, and about how they should be constructed.

For instance, quite a number of men have been killed through their machines coming down head first from quite a little height, and either being thrown out and breaking their necks, or having the heavy part of the machine, which includes the engine, falling on top of them and crushing them. In consequence, except for a few constructors who are too obstinate to change their ways, the modern aëroplane is built with the engine in front, the pilot behind that, and nothing but a light tail behind him. The result is that all the heavy part of the machine takes the shock if he runs into anything, or if he makes a bad landing, and he himself escapes unhurt if he only has the sense to stick to his machine instead of trying to jump out when he sees the danger ahead.

I have myself seen a man come down fully 150 feet, through a wing of his machine breaking in the air owing to a careless piece of construction, yet he picked himself out of the ruins practically unhurt, and was flying again a few days after. If that man had been sitting in front of his engine nothing on earth could have saved him from being killed.

Of course such examples of faulty construction are in these days comparatively rare, but it is never worth while taking risks, and even if one can depend upon the construction the design should also be safe. I am moved to make these remarks, which have nothing whatever to do with either photography or process work, by the fact that before very long everyone will be flying, either as passengers or pilots, and it is just as well, under the circumstances, that everyone should have some sort of an idea of the atmospheric conditions under which

aëroplanes fly, and of the safety of the machines themselves.

Incidentally, the danger of aëroplaning is very much exaggerated, for altogether I do not think that more than 100 men have been killed in the last two years out of aëroplanes, and altogether some 20,000 or 30,000 people must have flown one way or another. For example, on that particular Sunday in October to which I have already referred, just fifty different people went up in flying machines in two hours, and there was not a semblance of an accident anywhere. There are several thousand really capable fliers in the world already, and practically every one of these has taken up some dozens of passengers. In fact, one personal friend of mine took up no fewer than fifteen passengers one afternoon recently, and another took up thirty-five passengers in one afternoon and the following morning.

Flying is certainly the most delightful sensation imaginable, and when once one has experienced it one is always anxious to repeat the experience. Of necessity, flying is going to have very great effect on both naval and military warfare in future, and it is of greater importance to this country than to almost any other, for in these days when an aëroplane can, as has already been done, fly over 780 miles in eleven hours, one realizes the terrific possibilities of a sudden descent of a few hundred hostile aëroplanes on the capital of this country, an invasion against which our sea fleet would be absolutely helpless, and against which the only possible defence is an air fleet of at least equal size.—*Process Year Book*, 1911-12.

ADVERTISING: ITS NECESSITY

Good advertising always pays. Advertising that pays must be good advertising. It may have taken one of a thousand forms, but it was good and it paid.

There are a thousand and one ways to advertise yourself and your work. You can go hunting medals, cups, and trophies at State and National conventions and get for yourself a national reputation—national in the sense that you will be known among the professional photographers who attend conventions and read photographic magazines. After you have made a sufficiently large collection of medals, cups, trophies, etc., you reach the dignity of appearing in print without an initial before your name and become simply "Garo," or "Stein," or "Steffens," or "Doty," or "MacDonald." You may even become a colonel or a commodore. This assures your position in the profession and you are one of the "boys."

If your work has caught on with the public as it has with convention judges, you will be in a good way of business and will have a prosperous bank account.

This is assuming, of course, that you have been able to make good use of the publicity and reputation medal winning secures. If you lack the faculty of turning to its fullest advantage every honor gained you may still lack the wherewithal to meet your stockhouse bills.

You can stay at home and attend strictly to business, turning out consistently the best work you are capable of, and you will build up a reputation as a good business man and a com-

petent worker, that in itself will be the best kind of advertising.

Take an active part in all local affairs. Keep your name before your fellow-citizens. Every time your name is mentioned you are being advertised. It may seem very indirect and far away but you never can tell where the lightning will strike.

Cultivate your fellow-craftsman. Speak well of him whenever you have an opportunity. This is good advertising for photography and "Nothing is lost that a friend gets."

Projection apparatus can be had in a cheap and handy form, and a set of slides of local scenes and celebrities to help out church entertainments would cost little and be a good advertiser.

Aside from the regular forms of advertising, such as newspaper, booklets, special circular letters, etc., there are numerous ways in which the photographer can keep himself quietly but persistently before his present and future customers.

GLOSSARY OF THE CAMERA

Amateur.—A photographer who tries, without keeping a studio or shop, to teach the professionals, and when possible carries off some of the spoils.

Anastigmat.—A lens used by a scientist, and honoris causa owned by the artist who uses an old single lens denuded of stops.

Apology.—Gentle words of modest deprecation used by a lecturer to introduce his best effects.

Art.—My photographs. (To create a better understanding, the reader should say this over gently to himself.)

Artist.—The gentleman who gets his pictures hung and talked about.

Atmosphere.—A synonym for underdevelopment and fuzziness. See Tone and Tonality.

Ball and Tube.—A flexible rubber construction whose chief habit is letting in air.

Beginners.—Other people. See Experts.

Best.—An adjective describing all new goods put upon the market.

Camera Screw.—A valuable accessory with an aversion to publicity—of a retiring nature.

Catalogue.—Bait distributed by the wary dealers.

Chamber of Horrors.—The place where the selectors' prints are not hung. See Exhibition.

Composition.—A fruitful but elusive subject for discussion founded on Art (q. v.). An attempt to explain and reduce to formulæ or rule of thumb an artistic effect.

Criticism.—Opportunities for getting even with rude persons who have said nasty things about your own work or behavior.

Dark-room Lamp.—An illuminating hot subject which always smells bad and goes out at the wrong time.

Dark Slide.—A good opening for servants, whose faults are committed in full light of day and discovered in darkness. A place to hide our unrevealed errors.

De Luxe.—A favorite adjective used in catalogues (q.v.) to keep the attention of the customer off the higher price.

Diaphragm.—What advanced workers do without; and the master of the tyro. An atmosphere annihilator. A revolving mechanism to attract the beginner to play and waste plates.

Economy.—A euphonious method of describing the purchase of a $3\frac{1}{2}$ x $2\frac{1}{2}$

reflex in lieu of a cheaper larger-sized camera.

Entry Fees.—Income derived from entrants at an exhibition (q.v.), devoted to paying for wall space occupied by nominees of the selection committee.

Exhibition.—An opportunity for the selection committee to show their work. A lottery on unequal terms.

Experts.—Ourselves. See Beginners.

Exposure.—The scape-goat pointed out by plate and paper manufacturers in answer to complaints.

Flash Powders. — Dangerous compounds which let a little light on the subject and which we should not blow about until we have tried them.

Focal Plane.—An elaborate shutter sometimes requiring a certificated engineer to operate and keep in order. See Reflex.

Focussing Cloth.—A place where two heads are better than one. Success in the case of the focussing cloth depends upon the proximity to and selection of subject.

Formulæ.—Fresh incentives toward spending money in new goods.

Fuzzytype.—An art production which makes the use of a title a necessity and a great assistance.

Hypo.—A useful and cheap chemical which we pretend to wash out of plates and papers and for economy use till exhausted. What comes out in the wash—sometimes.

Hypo-eliminator.—An expensive mode of spoiling plates. A negative device.

Iron-printing.—A species of printing which gives one the blues.

Idiots.—A refreshing way to describe judges.

Judges.—Impartial faddists who never fail to give satisfaction by their awards—to themselves and to their prizewinners of the lottery.

Journals.—Advertising media which stimulate both experts and beginners (q.v.). See Photographic Magazine.

K-filters.—An invention which takes the photographer among the clouds. A short way of saying isoschromatic screen and selling both to the same man.

Kodak.—A form of press photography universally attractive.

Lamp.—A dark thing whose face is sometimes bright. See Dark Room Lamp.

Lantern Slide.—The aim of the photographic traveller first seen upside down or stuck in carrier.

Legs.—What we all look to. A vulgar equivalent for tripod (q.v.).

Lens.—A mixture of air, brass, glass, and reputation which forms the eye of the camera. All are perfect.

Liar.—The man who has never wasted a plate, who always takes good pictures, which are the superb examples carelessly displayed for approval as "some" of his work.

Long Focus.—A lens, the use of which is one step toward art. The correct thing to say when the majority of criticism enthusiastically praises a picture, or to urge when a picture is discredited.

Measure Glass.—Something which is always broken up. A place for storing samples of old solutions. The one thing missing when solutions require to be made up.

Moonlight Effects.—A clever idea for turning day into night.

Mount.—A support for a print guaranteed not to buckle.

Mountant.—Something which does not always stick.

Night Photography.—A diversion in plate wasting. A branch of photography which always makes by-standers and loungers spring up miraculously.

Nonsense.—Other people's views.

Nerve.—To stay in the Society's dark-room for hours. To make a fuss

about the financial statement at an annual meeting with subscription overdue.

Oil-process.—A brush with the enemy. A form of the soul brush dear to the artist.

Originality.—The excuse of the selection committee for hanging a poor picture by a noted worker who must not be offended.

Passe-partout.—A form of framing which may stick to and later forms the undoing of many a picture.

Photography.—A scientific game popular in society.

Photographic Magazine.—Camera publications which never pay and are run as philanthropic enterprises.

Photographic Society.—A collection of photographic smokers where grievances are ventilated, cured, and created, and where members' competitions are held in avoiding work and subscriptions, and dark-room dodges and art are discussed.

Photographic Society Secretary.—A benevolent, sweated, honorary idiot, who must satisfy the demands of everybody in a Photographic Society (ante) without thanks or pay.

Plate Duster.—A piece of velvet or camel's-hair brush used to put dust on the surface of plates.

Plate Mark.—A species of impressed mount which encourages the artist to consider the dimensions of such mark and compose his picture accordingly. It sells best by itself.

Plate Speeds.—A device on the outside of plate boxes to induce photographers to buy exposure meters.

Plaque.—A token or guerdon promiscuously distributed by judges at exhibitions.

Platinum.—Bromide paper at a studio masquerade.

P.O.P.—A paper beloved by the beginner and odious to the Expert or Artist. Often a glazed horror.

Quality.—That which is possessed by few and desired by many, but strangely enough is most often encountered in one's own work.

Question-box.—The final resort when a lecture or demonstration falls through.

Quiet.—A restful condition unknown at an annual meeting.

Rack.—A piece of apparatus which dries plates unevenly very readily.

Reflex.—A form of ostentation costing much money.

Rectilinear.—A lens which will render as parallels the side of a building if given a chance.

Rising Front.—A device for counteracting a tendency of buildings to become distorted and for preventing the ground from running up hill.

Rubbish Tin.—An admirable but neglected receptacle for storing negatives and prints, and the last resort of an errant camera screw.

Shutter.—The eyelid of the lens (ante) whereon are sometimes engraved lies. Like a wise chauffeur it never knows its speed.

Stereoscope.—A mode of eye strain which gives a pleasant relief.

Stirring Rod.—An apparatus for assisting the dissolution of soluble developoids which don't need crushing. A ready means of testing the stability of a measure glass (ante).

Study.—A grand thing to call a picture when titles are out of stock.

Tank Development.—A form of development applicable to photographer as well as plate.

Telephoto.—A long range lens requiring a motor lorry in transit.

Tone.—An elaborate way of excusing a poor print. To obtain a good color in a print by means of a horrible smell.

Tonality.—The expression of tone (ante). A word to confound the uninitiate, and to give a reason for a print's existence.

Travelling Portfolio.—A popular method of keeping old prints circulating, and of venting one's spite on other men's work. Travelling one-man shows.

Triple Extension.—A long focus fitting which enables the operator to keep out of range and dangerous proximity to his subject. (See tripod.)

Tripod.—Something that shakes when the camera is doing time.

Under-exposure.—An offence for which the offenders should do time.

U. S. Stops.—A system of making the focal aperture whereby ignorant purchasers are deluded that the lens works at F/8 or even F/4.

Veterans.—An elaborate and tactful way of describing the out-of-date "has-beens."

Votes of Thanks.—Vocal oleaginous mixtures terminating a lecture or demonstration.

Washing.—A fiction believed in by the amateur.

Wave Pictures.—Pieces of turbulent twisted water, with heavy printed-in clouds.

Weight.—A heavy characteristic of the telephoto lens.

X-pounds.—The price of an anastigmat.

Xylonite Dish.—A dish unsuitable for carbon development, whose behavior on first acquaintance is stiff, but relaxes if treated with suitable warmth.

Younger Members.—A patronizing phrase common in Photographic Societies, used by artists and veterans (q. v.).

Zeal.—An excuse for indiscretions. —A. R. WHEELER, B.A., in *The Australian Review.*

A PHOTOGRAPHIC CAPTAIN OF INDUSTRY

OF late years we have heard much of captains of industry. In monarchical Europe they are "Merchant Princes," and are credited as men doing business on a gigantic scale. We have just read in one of our English contemporaries of the death of Mr. George Taylor, one of the best-known photographers in Great Britain.

Mr. Taylor was the head of the firm of A. and G. Taylor, pioneers in the supply of low-priced portraits and enlargements. The firm operated a chain of studios in the principal towns of Great Britain, each studio being the headquarters for a staff of canvassers who organized clubs in almost every factory and workshop throughout the country, and the working people were photographed on a vast scale.

Starting as a carpenter, Mr. Taylor was employed in the building of Balmoral Castle, the Scottish home of Queen Victoria. As an amateur photographer he saw the possibilities that lay in the securing of pictures of the Queen and the Royal Family. Through the assistance of the Queen's favorite personal attendant, her consent was obtained, and a valuable series of pictures was made. With the money thus made, Mr. Taylor opened his first studio in London, followed by branch studios all over the country, each studio displaying on its sign, "Photographers to the Queen and the Royal Family." With keen business instinct and clever managment of canvassing and club methods, every advantage was taken of the working people's desire to be photographed by

"Photographers to Her Majesty the Queen and the Royal Family." At the end of twenty years Mr. Taylor was making $100,000 a year, and then for a few years as much as $150,000 a year, or three times as much as the salary of the President of the United States.

Mr. Taylor possessed a splendid estate near London, and has presented a park to the people of Reigate, and had recently offered part of his estate to the public on generous terms, that a magnificient view might be preserved for the people.

OPTICAL GLASS*

BY DR. W. ROSENHAIN.

MR. CHAIRMAN, LADIES, AND GENTLEMEN: It gives me the greatest pleasure to stand here and deliver the Traill-Taylor Memorial Lecture. It is scarcely my place to add anything to what the Chairman has already said with regard to Mr. Traill-Taylor, but it was an appropriate coincidence that the other day, when I had occasion to consult a standard German book on photographic objectives in order to refresh my memory as to some dates and historical facts. I should come across a large section headed by his name. Optical glass is essentially a modern product; the telescopes of Galileo, and indeed all the earlier lenses employed by opticians and physicists, even up to the end of the eighteenth century were made of ordinary glass picked for its special clearness and purity from such sources as the thick portions of glass at the base of a tumbler, and other parts of such glassware. With such material no lenses larger than three inches in diameter could be made; but from the point of view of photography the principal trouble lay in the fact that the images producible by even the smaller lenses of this kind were not really perfect. For the simpler, imperfectly corrected lenses of the earlier types, no serious difficulty arose, and it is hardly a trade secret that even at the present time many photographic lenses of the cheaper sorts are sold, and used in which true "optical glass" plays no part. All the greater achievements of modern optics, however, whether in the telescope, the microscope, or the photographic objective, would have remained impossible if means had not been found for producing glass of perfect quality in large blocks. Strangely enough, the fundamental discovery in this matter was made by the son of a Swiss watchmaker —Pierre Louis Guinand—and from his time onward there has been a steady development culminating in the work of Schott and Abbé at Jena. The list of those associated with the development of optical glass includes many famous names, such as Fraunhofer, Faraday, Stokes, Harcourt, and Hopkinson.

In what respects, then, does optical glass differ from ordinary glass of good quality as we see it in good tableware or in our plate glass windows?

The primary and most important difference between optical glass and practically all other kinds of glass is

* Being part of the Fourteenth Traill-Taylor Memorial Lecture and delivered before the Royal Photographic Society, London, on Nov. 14, 1911.

in relation to homogeneity. A good piece of plate glass appears at first sight to transmit light in a perfectly regular manner, or, in other words, to behave as if it were a perfectly homogeneous transparent medium, like pure still air or water. But if we examine such plate glass very carefully we soon find that its behavior in this respect is not perfect. If we simply pass the image formed by a high-class photographic objective through a moderately thick slab of plate glass, we will, as a rule, notice a very decided falling-off in the crisp sharpness of definition which is the optician's—though not always the photographer's—ideal. But in these circumstances the piece of plate glass is employed under what are really very favorable conditions; the light passing through it does so in the form of comparatively narrow convergent bundles of rays, and a slight inequality in their paths does not make itself felt very strongly. Were we to employ the same glass for one of the lenses of the objective, the want of true homogeneity would make itself much more strongly felt, for here the rays of light would be caused to traverse the glass in many directions, and differences in the behavior of the glass in these various directions would interfere with the ultimate union of the rays at the focal plane.

The fact that even the best ordinary plate glass is far from homogeneous is readily seen if a fairly thick piece is polished on two opposite faces and the glass is then examined along its length instead of across its thinnest dimension. Viewed in this way the glass exhibits a peculiar striated appearance, somewhat suggesting that it is made up of parallel layers of different density. This is actually the case. The glass is made by pouring out the molten material upon a large iron table or slab, and then rolling it into a large, comparatively thin sheet. If the molten glass as it it pured out of the melting pot is not truly homogeneous, then the different regions existing in it will be spread out and flattened by the rolling process into thin wide parallel layers, much as the layers of batter paste are spread out by the rolling-pin. These layers of glass of slightly different density are least evident, in their optical effects, when viewed at right angles or nearly so—indeed we could make a very fair imitation of a piece of plate glass from this point of view by cementing together a large number of thin sheets of glass of different refractive index—provided that the differences of refractive index were not too large, such a composite sheet would behave very like a homogeneous sheet when looked through at right angles. To oblique light, however, the effect would be very different, and in the case of actual plate glass this is further accentuated by the fact that the boundaries of the different layers are not strictly parallel planes but are curved and irregular.

If we examine it in the corresponding way—*i. e.*, by looking along its greatest thickness, the glass of all ordinary table-ware, etc., exhibits the same kind of striated appearance arising from the presence of layers of glass of slightly different density and refractive power, generally arranged—as a consequence of the method of manufacture employed—so as to be approximately parallel in directions at right angles to those along which the glass is usually traversed by light in its ordinary uses. Consequently these striæ are not very obvious to ordinary observation, but their existence can always be demonstrated and their injurious effects at once become evident if the attempt is made to use such glass for any refined optical purpose.

(To be continued.)

HENRY SNOWDEN WARD—1865-1911

AN APPRECIATION

IT was in 1893 at the World's Fair in Chicago that I met him. I was a an awkward, impetuous youth filled with gnawing desires and ambitions and nothing much to feed them on—but he understood and it was only a few hours before he had his arm around me—it has been there ever since, and always will be.

That was just it, he understood, he did seem always to understand.

Then again, one summer night at Golden Green, after I had erupted and excoriated to the limit of my Celtic vituperation a man that had sinned against us both, he showed me that I had overlooked the heredity that had created the fault, and that the poor devil was entitled to sympathy.

Yes. Sympathy, a fine and rare sympathy was his own hall-mark—not maudlin, but true masculinity, deep and pure and sweet.

Were I to be recast I would that I might fit such a mould as fashioned Snowden Ward.

[As briefly recorded in our last issue, the death of Mr. H. Snowden Ward took place suddenly in New York on December 7. In all photographic circles no one was better known or more universally liked than Snowden Ward, and all who knew him will feel a keen sense of personal loss at his untimely taking off. We reprint below from the *British Journal of Photography* an account of his life and work, by Mr. George E. Brown, who was more closely associated with him than any man living.—EDS. W. P. M.]

"Within the last year or two Henry Snowden Ward had largely withdrawn himself from the photographic journalistic world, in which for many years he had been a leading personality. His interests and inclinations had gradually led him into literary fields, and he had found the lecture platform a welcome change from the editorial chair. Yet it is not too much to say that the news of his sudden death will arouse a more widespread sorrow and sense of personal loss than would that of any contemporary of his in photographic circles. Few men in any walk of life had his natural quality of charming all classes of people. His personality addressed itself without effort or affectation to all sorts and conditions of men, and made him not only the friend and adviser of many, but the receptacle of confidences from still others who found in him a sensitive and loyal sympathizer such as few are able to be.

"The events of his life can soon be told. He was born at Great Horton, near Bradford, in 1865, and was thus only forty-six at the time of his death. His father's business of stuff manufacturing did not attract the literary bent of the boy. At eighteen he edited and published a magazine, *The Practical Naturalist*, and a year or two later, in 1884, became connected with the firm of Percy Lund & Co. (now Percy Lund, Humphries & Co.), at that time (1884) publishers and stationers catering specially for photographers. For them Mr. Ward founded and edited *The Practical Photographer*, and by his active conduct of it did much from 1889 to 1893 in the interests—technical, commercial, and social—

of professional photographers. In 1893 he married Miss Catherine Weed Barnes, daughter of Mr. William Barnes, of New York, and herself a most enthusiastic amateur photographer in the days when amateur photography was a more serious pursuit than it is now. Mr. Ward severed his connection with the Bradford firm, and, with his wife, founded the monthly magazine, *The Photogram*. Their direction, which was one of great energy and originality, speedily caused the publication to take a leading place in photographic journalism, though its success as a commercial property is open to doubt. The sister magazine, *The Process Photogram*, now *The Photo-engraver's Monthly*, was founded in 1894, and the pictorial annual, *Photograms of the Year*, in the same year. Particularly in connection with photomechanical processes, then coming largely into vogue, Mr. Ward accomplished a great deal in advancing the craft, in resisting trade oppression, and in distributing a knowledge of technical advances in these processes.

"Though these publications made great demands upon his personal attention, yet he took a most active interest in photographic institutions, among them the Royal Photographic Society, the Photographic Convention, of which for many years he was a member of Council and President at the Canterbury meeting in 1909, the Photographers' Benevolent Association (now defunct), and many photographic societies at whose exhibitions he was in great request as a judge. Nevertheless, he eagerly embraced every fresh opportunity of the technical journalist. For example, on the discovery of the *x*-rays, he was one of the first experimenters in England, wrote the first handbook of the subject, and was one of the founders of the Röntgen Society. He threw himself into the propagandist work of photographic record with Sir Benjamin Stone, was one of the first to draw attention to the use of photography in press illustration, and was ahead of his time in establishing a bureau for the supply of photographs to the press.

"For some years past Mr. Ward, with his wife, had taken a keen interest in the application of photography to literary topography. The first outcome of their work in this field was the book on Stratford-on-Avon dealing with the life of Shakespeare, and illustrated by photographs by Mrs. Ward. This was followed by a volume dealing with the wider subject of the life of Dickens and the scenes of his novels, by the *Canterbury Pilgrimages*, and by a photographically illustrated edition of *Lorna Doone*. A natural step from the preparation of these books was lecturing on the subjects. For several years past Mr. Ward had visited the United States on a lecture tour around the chief cities—a strenuous life, which, it will be remembered, led to the collapse of Dickens.

"In what I have written above I have not drawn a fancy picture of the full crowded life which Ward lived in the latter days of his association with photographic journalism, for I shared it with him from 1899 to 1905. I first met him at the Crystal Palace exhibition of the Royal Photographic Society in 1898, and a year later was happy in joining him on the staff of the *Photogram*. No one could have wished a more inspiring or kindly chief, nor one more genuinely grateful for services rendered him. Perhaps I saw more of Ward during these years than most people, since for part of that time, on his invitation, I made my home with him on his establishing himself at Hadlow, Kent. Those who knew him only by his writings, or by correspondence, could form no

idea of the fun, good spirits, and humor which were a part of his nature. He was most serious in doing anything to which he put his hand—indeed, to an excess, I think, so that things which might have brought relaxation and recreation to him were undertaken with a zest and nervous energy which often taxed his powers instead of relieving them. He lived a life of restless work. He would have subscribed, I think, to the sentiment of R. L. Stevenson: 'By all means, finish your folio, even if the doctor does not give you a year; even if he hesitates about a month, make a brave push and see what can be accomplished in a week.' Yet engrossing as he found the pursuits he followed, his time and energies were eagerly placed at the disposal of any who asked help or advice of him. Indeed, to state a difficulty was enough to evoke the help and suggestions which Ward was ever ready to render, at the cost of putting his own immediate work on one side. He was quick and adroit to proffer material aid when it was needed, and I could tell of many private benefactions he bestowed spontaneously where he saw them to be needed. Though he was brought in contact with many phases of human life, nothing blurred his kindly outlook on men and their actions. His memory will long survive among those who knew him as a man of truly great qualities, without a shade of bitterness in his nature, and the firmest and most loyal of friends."

NEW BOOKS

The British Journal Photographic Almanac and Photographers' Daily Companion, 1912. Edited by GEORGE E. BROWN. 1435 pages. Paper cover, 50 cents; postage 27 cents. Cloth binding, $1.00; postage 37 cents. Sole sales agent Geo. Murphy Inc., 57 E. Ninth St., New York.

The fifty-first volume of this grand old almanac is bigger and better than ever, the pages running to 1436, and each one interesting. The special articles this year are on Lantern Slide Making, by Geo. E. Brown, and "Indoor and Outdoor Portraiture," by C. H. Hewitt, both particularly well written, the latter fully illustrated. A new feature this year is a section devoted to "How to Do It," giving practical instructions on the carrying out of the various photographic operations by means of illustrations, a sort of still life moving picture, if you can imagine such a thing. The Epitome of Progress section illustrates and describes the many novelties in apparatus produced in 1911. The advertisements which make up the bulk of the book are as varied and as interesting as ever. It is a book you will enjoy.

Wellcome's Photographic Exposure-record and Diary for 1912. New York: Burroughs Wellcome & Co. Price, 50 cents.

A useful pocket exposure guide for the man who wants correct exposure every time, monthly tables and a simple revolving disk make it possible. This part of the book alone would make a very convenient exposure record, the rest of the matter could be left in the work shop or dark room, where it more properly belongs.

Penrose's Pictorial Annual. The Process Year Book, 1911-12. Edited by WILLIAM GAMBLE. London: A. W.

Penrose & Co. Sole American agents, Tennant & Ward, New York. Price, $2.50.

The seventeenth volume of this beautiful year book of the graphic arts is a wonderful showing of the hundred and one methods of reproduction. The illustrations are printers' and engravers' samples of their best and most up-to-date methods of reproduction, and include some sixty-eight full page supplements in from two to five colors. Portraiture is well represented, and includes a portrait of a Scotch noble in full coronation dress taken in natural colors by the Dover Street Studios, London, with an exposure of one-eightieth of a second. There are also many portrait studies from autochromes and other color plates. The frontispiece is a splendid photogravure of the stolen "Mona Lisa." The articles are of practical interest to every-one connected with the graphic arts, and some of them are of special interest to the photographer, such as "Enlarged Negatives in a Small Camera," "Focal Length of a Lens," "Photographic Optics Simplified," "Line Drawings from Photographs," "Portraiture in Color," to mention but a few. It is one of the books professional photographers should be interested in.

George Thorne. By NORVAL RICHARDSON. Published by L. C. Page & Co, Boston. Price, $1.25, net.

A clever story of an ambitious young Westerner who at twenty-four discovers a secret which enables him to palm himself off as the long lost son of a multimillionaire, the plan works and he is transferred from distasteful poverty and hardship to luxury and boundless opportunity. The adopted mother believes in him, but the father has his doubts, but decides to give him a chance to prove his worth, and in the young man's efforts to make himself worthy of his adopted parents we have a most interesting and at times exciting story. It is a story that holds one to the finish.

Photography: Its Principles and Applications. By ALFRED WATKINS, F.R.P.S. Illustrated. New York: D. Van Nostrand Co., 1911. Price, $2.00 net.

Mr. Watkins speaks with considerable authority on the principles and applications of photography. Few men have devoted so much study to the one and time to the other. For his work on exposure and development he was awarded the Progress Medal of the Royal Photographic Society of Great Britain, which is the highest endorsement possible. As the inventor of the Watkins exposure meter and originator of the Watkins factorial system of development, Mr. Watkins is fully equipped to write a most instructive book on these subjects, and the volume before us is a thoroughly practical and comprehensive text-book on photography. Not its least interesting feature is its originality. There are chapters on First Principles; Lenses; Exposure Influences; Practical Exposure; Development Influences; Practical Development; Camera and Dark Room; Orthochromatic Photography; Printing Processes; Hand Camera Work; Enlarging and Lanternslide Making; Color Photography; General Applications; Record Applications; Science Applications; Plate Speed Testing; Process Work; and an Addenda on Pinhole Photography. A new method of speed testing is given at the end of the book and is of considerable interest. It is a modification of the Hurter and Driffield method, giving the centre of the correct exposure period known

as the point of double flexure. It is a book that we strongly recommend to our readers to read, mark, learn, and inwardly digest. Several obvious errors have crept into the book and must be noted; the table of stop values on page 24 is an example.

American Photography, of 221 Columbus Ave., Boston, Mass., has just issued another edition of Dundas Todd's famous *Photo. Beacon Exposure Tables*. For a simple and quick method of arriving at the correct exposure necessary for any subject we know of nothing better, and that some seventy thousand copies have been sold is a proof of their great popularity. The price is 25 cents.

Another little book from the same source is a handbook on *How to Make Enlargements*. It has been brought up-to-date and gives all the necessary information for making enlargements at home. The instructions cover the use of the fixed-focus enlarger and the enlarging lantern. Price, 10 cents.

The Photographic Annual, 1911–1912, *Incorporating the Figures, Facts, and Formulæ of Photography*. A Guide to Their Practical Use. Edited by ARTHUR D. GODBOLD. Pp. 293, illustrated, paper covers, 50 cents; postage, 8 cents. Cloth bound, $1.00; postage, 10 cents. American Agents: Tennant & Ward, New York.

This favorite English yearbook again shows considerable change in its make-up over past years. In the first section we have illustrated articles on "Aërial Photography; The Photography of Flowers; Night Photography; Picture Making by the Bromoil and Oil Processes; and Hints on Home Portraiture. The second section is devoted to Lists of Various Classes for Instruction in Photography; Federation Lecturers and Lectures, and a Directory of Photographic Exhibitors, giving names and addresses of those who have exhibited at the leading exhibitions of the last few years. The third section, which occupies about two-thirds of the book, is given up to a collection of formulæ issued by various dry plate and paper manufacturers, and the *Figures, Facts, and Formulæ of Photography*, very fully revised, and covering the workroom—the use of lenses; orthochromatic photography; artificial light work; emulsions and dry plate formulæ; intensifiers; varnishes; home-made printing papers; gelatine and collodion print-out papers; gaslight, carbon, blueprint, and platinum papers; spotting, mounting, and finishing prints; lantern slides and optical lantern work; chemicals, weights and measures, and a very full section devoted to the various photomechanical processes. A compactly printed volume full of practical usefulness to the working photographer and well worth its price. The illustrations, which are a special feature this year, are numerous and varied in their interest.

Messrs. Tennant & Ward advise that since *The Photo-Miniature* Series Nos. 13 and 68 went out of print some years ago they have had a persistent demand for a handbook on the photographing of flowers. They have, therefore, reprinted the above two numbers in an attractive 50-cent book of 93 pages, with 37 illustrations, frontispiece, and cover in three colors. The brochure has the double title, *Photographing Flowers and Trees* and the *Use of Natural Forms in Decorative Photography*. Mr. J. Horace McFarland, the author of the monographs here republished, is an expert in these two departments of photography, and, as the only work on its subjects, his practical experience will doubtless be welcomed by those working along the same lines. Price, 50 cents, net. Tennant & Ward, New York.

TRADE NOTES

BUSINESS conditions in Mexico reported in the Rochester *Democrat and Chronicle:*

"Manufacturers contemplating the commercial exploitation of Mexico or the extension of plans already exploited, would do well to study carefully the political conditions in the republic, especially as these will affect the merchants, before proceeding to the execution of their plans," said William V. Moore, general agent of the Bausch & Lomb Optical Company, who has just returned from the city of Mexico. Mr. Moore added:

"Proceeding to Mexico from San Francisco I was instructed to survey the field with a view to extending the business of the company, not only in Mexico but into Central America, should conditions seem to favor such an extension. Once across the Rio Grande river I expected to be confronted with the Federal Army of Mexico and to see some fighting here and there, so much having been said and written in the United States relative to the counter revolution. However, there was peace and quiet everywhere in the republic as far as I was able to observe, the only signs of extra precautions against attack being bodies of rurales, or state police, patroling the border and going to and from the interior towns. Persons returning from some of the isolated sections brought reports of outbreaks here and there, but these seemed to have been more the occasion of pure brigandage than revolution.

"Arriving at the city of Mexico I found that outside of official circles the Americans engaged in business there were not at all disturbed by the rumors of General Reyes entering the city with his soldiers. In official circles, however, this tranquility did not seem to be so prevalent, some of the government officials with whom I talked being very cautious about advising me with regard to the commercial exploitation of their own country. And this precaution of the officials was reflected in the real existing business conditions in the City of Mexico. I found that the merchants there, chiefly American, German, and French, were unwilling to consider new contracts involving heavy expenditures extending over a period of time.

"General business in the City, and in fact, throughout all the cities of the republic, is at an extremely low ebb, and I do not think that conditions will be much better until the people have greater confidence in the stability of the new political regime."

THE BERLIN ANILINE WORKS recently sent out through their advertising department a light-proof envelope containing an automatically exposed developing-out postcard. To bring out the image in good black and white it was only necessary to develop the cards. While the returns were highly satisfactory from the advertising point of view it was surprising to find that only about 50 per cent. of the developed cards showed normal development, the other 50 per cent. all bore evidence of careless and unworkman-like development. It makes us wonder what sort of a chance a manufacturer's samples have of being intelligently tested unless accompanied by an expert demonstrator. It would also indicate that there are still plenty of careless and indifferent workers who do neither any good for themselves or the profession.

ONE of the most prolific causes of bad language in the printing room is the widespread tendency on the part of drying prints to curl unless weighted down or nailed to the mast, so to speak. But the curl can be banished or laid flat and in a very simple manner. Photo-flat is the new invention and, as its name implies, it lays the photo flat. Simply dry your prints in the ordinary way then apply Photo-flat to the back of the print, when the solution dries curl the prints slightly backward and put them under a weight for a few hours and you'll have prints with a smooth, even surface with ever so slight a tendency to curl backward. It's a liquid and comes in pint bottles at $1.00; quarts, $1.75; and one-half gallon bottles, at $3.00 It is guaranteed to work as described and can be obtained of any dealer or Geo. Murphy, Inc., 57 East Ninth St., New York City.

WE have received a copy of the prospectus of the special post-graduate course offered by the Southern School of Photography, McMinnville, Tenn., beginning February 5, 1912. The course laid out to cover the four weeks is very comprehensive and covers thoroughly the best professional practice of the present day and Mr. Lively is well known the country over as a teacher with a peculiarly happy faculty of imparting his knowledge to others. It is a course that many photographers would enjoy and profit by.

PHOTOGRAPHERS who have an idea that lens manufacturers are unusually well paid for their lenses would do well to read the Traill-Taylor lecture on "Optical Glass" reprinted in this issue and see what infinite patience and care is required simply for the production of the glass in the raw state, add to this the cost of computing, grinding, polishing, testing, and fitting that goes to make the perfected lens and it will be readily seen that the "few pieces of glass in a brass tube" are really well worth the high prices they command.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor
MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors.

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Yearly subscription in advance, United States and Mexico, $3.00; Canada, $3.25; Foreign Countries, $3.50. Single copies, 25 cents Subscriptions begin with current issue unless otherwise ordered. Original manuscripts on photographic subjects are solicited, and, if accepted, will be paid for on publication.

EDITORS' TABLE

THE Professional Photographers' Society of New York holds its annual convention at the Park Avenue Hotel, New York, on February 7, 8, and 9. This is one of the big events of the year and President Bliss and his brother officers are working hard to make a bigger success than ever of this popular convention. The special feature of this year's meeting will be a fine display of color photography gathered together by Mr. B. J. Falk. Mr. Falk is the pioneer in this country of the commercial application of color photography to portraiture and is in touch with the best known workers in this line. Already promises have been obtained from Frank Scott Clark, J. C. Strauss, Clarissa Hovey, Boston; W. H. Rau, Arnold Genthe, S. L. Stein, I. D. Schwarz, Marceau; F. J. Sipprell, Buffalo, and Falk, New York, to exhibit, and an unusual display is assured. Another feature of this year's meeting will be a series of twenty-minute talks from prominent photographers. Park Avenue Hotel has again been made headquarters and considering the present crowded condition of New York hotels, visiting photographers are advised to make their reservations at the hotel at an early date.

CHEERFUL J. C. Strauss voices the following for his New Year wish: "The troubles of 'Eleven now we'll shelve, and look with joy to Nineteen Twelve," so say we all of us.

Our newest ex-president of the P. A. of A., G. W. Harris, sends a friendly greeting headed by a picture of himself dressed in the style of old Ben Franklin's day. We would suggest that G. W. attend the dinner of the P. P. S. of N. Y. in this costume and give the speakers something new to talk about.

AFTER considerable discussion the following formula has been adopted for the marking on all proofs sent out by members of the metropolitan section of the P. P. S. of N. Y. "This proof is the property of John Doe, 500 Fifth Ave., New York, and is submitted for approval with the understanding that it is not to be copied and that it will be returned to the studio within ten days." The seal of the section stamped with the above lends an official air and helps to make it look more effective.

BUCYRUS, OHIO, is to be congratulated on possessing a handsome new ground-floor studio recently opened with a fine loan exhibition by Mr. L. A. Dozer. No expense was spared by Mr. Dozer and the studio reflects much credit on his taste and judgment. He is one of the City's most respected and capable citizens and shows his appreciation of his home city and chosen profession by the acquisition of such a well-planned and equipped studio building.

AN exhibition of photographs by Baron Ad. de Meyer, of London, will be held at the Gallery of the Photo-secession, 291 Fifth Avenue (between Thirtieth and Thirty-first Streets), New York, opening on December 18, and closing January 15, the Gallery is open from 10 A.M. until 6 P.M. daily, Sundays excepted.

THE services of translators of a variety of languages are required to interpret the daily mail of the C. P. Goerz American Optical Company. But a Japanese correspondent, with the kind intention, no doubt, of saving the Company the trouble of translating his epistle, has succeeded in baffling them. The following glowing testimonial was recently received:

N————————Japan.
November 15, 1911.

Messers C. P. Goerz Co.,
dear Sir

I beg yours company letter with wish sending Goerz company more and more prosperity prime. I to make sick be sad Goerz company, to manufactured by Series 1c Sintor and 111 dagor all lenses and anchuts, tenax, ango all camera how beautifur minuteness copyieding Sample photograph book and besides you co, to trust in good lens and camera catalogue and Exactly in a price list sending confer fast.

I dear Goerz company prophecy Engagement to will.

Dr. B.————

Just what meaning the Doctor wishes to convey, in addition to his holiday greeting, is in doubt; but he will receive by the next mail sample photographs showing the "beautifur minuteness" to which he refers.

Photographic Magazine Offers

FOR 1911-1912

RULES FOR MAKING MAGAZINE CLUBS

No subscription can be taken for any magazine singly at less than the published subscription price. A club of two or more magazines, including WILSON'S PHOTOGRAPHIC MAGAZINE, may be made as follows: Add the black faced figures preceding the names of the magazines desired, multiply the total by five, and the result is the price in the United States. For Canada or foreign countries add postage as given in the proper column.

EXAMPLES

47	**Wilson's Photographic Magazine**	$0.25 Can. postage
20	Camera Craft	.25 " "
24	Photo Era	.35 " "
91		$0.85
5		4.55 U. S. club price
$4.55	club price in U. S.	$5.40 Can. " "

Class Number		Publishers' Price	Canadian Postage	Foreign Postage
30	ABEL'S PHOTOGRAPHIC WEEKLY . . .	$1.50	$0.50	$1.50
24	AMERICAN PHOTOGRAPHY	1.50	.35	.75
35	BULLETIN OF PHOTOGRAPHY	1.75	.50	1.00
17	CAMERA, until January 1, 1912 . . .	1.00	.25	.50
22	CAMERA, after January 1, 1912 . . .	1.50	.25	.50
17	CAMERA CRAFT (new)	1.00	.25	.50
20	CAMERA CRAFT (renewal)	1.00	.25	.50
170	CAMERA WORK	8.50	none	.50
24	PHOTO ERA	1.50	.35	.75
20	PHOTOGRAPHIC NEWS	1.00	.25	.25
27	PHOTOGRAPHIC TIMES	1.50	.25	.50
50	PHOTO MINIATURE	2.50	none	.36
47	WILSON'S PHOTOGRAPHIC MAGAZINE .	3.00	.25	.48

Prices on this page are valid until October 1, 1912. We do not furnish sample copies of other magazines. We take subscriptions for all magazines published. We will duplicate any price quoted by any recognized subscription agency.

PHOTOGRAPHIC ANNUALS

	Price Postpaid	With Wilson's Photographic Magazine
AMERICAN ANNUAL OF PHOTOGRAPHY . . .	Paper $0.92	$3.20
	Cloth 1.47	3.75
BRITISH JOURNAL ALMANAC	Paper .77	3.10
	Cloth 1.37	3.50
DEUTSCHER KAMERA ALMANACH	Paper 1.25	3.40
	Cloth 1.75	3.70
DIE PHOTOGRAPHISCHE KUNST IM JAHRE, 1911	2.75	4.80
PENROSE PROCESS YEARBOOK	2.50	4.75
PHOTOGRAPHIC ANNUAL	Paper .58	3.15
PHOTOGRAMS OF THE YEAR 1911	Paper 1.25	3.60
	Cloth 1.75	3.80
WELLCOME'S EXPOSURE RECORD AND DIARY .	.50	3.20

Make all remittances by Money Order or Registered Letter

EDWARD L. WILSON, 122 E. 25th St., N. Y.

Some Facts

CYKO in 1899 made its appearance and gradually worked its way to the front, because it was the only paper with great latitude in exposure and with three grades of contrast to fit any negative. Its action was absolutely positive, hence the slogan: CYKO the Positive of Photography.

CYKO in 1908 had demonstrated its quality so forcibly to the great army of amateurs, that finishers all over the country adopted its use, in spite of Trust restrictions, in order to meet the exacting quality of work demanded by their customers, hence the sour grape derision of our Trust competitors: CYKO is a commercial paper.

CYKO in 1909 had worked its way into the portrait studios on account of its latitude, fine gradations, uniformity, tough emulsion and its beautiful sepia results, hence our Trust competitors invented the epithet, CYKO—the pro-amateur paper.

CYKO in 1910 succeeded in combining into one emulsion all the good qualities of CYKO as such, and all the essentials of all other professional photographic printing mediums, and PROFESSIONAL CYKO became the only high grade studio paper.

CYKO in 1911 has been so generally used that the Trust had to issue permission to its dealers to use CYKO paper for amateur finishing and to sell PROFESSIONAL CYKO to its studio customers.

In 1912 everything is CYKO.

Ansco Company, Binghamton, N. Y.

EDWARD VII

By Baron Ad. de Meyer

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. XLIX FEBRUARY, 1912 No. 662

MEETING OF THE EXECUTIVE COMMITTEE OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA

At the call of the President, Ben Larrimer, the Board of Officers of the Photographers' Association of America met in conference at the Bellevue-Stratford Hotel, Philadelphia, Penna. There were present: Ben Larrimer, President; Charles F. Townsend, First Vice-President; Will H. Towles, Second Vice-President; L. A. Dozer, Treasurer; Manly Tyree, Secretary. By invitation of the Board there were also present: E. B. Core, New York City; Clarence M. Hayes, Detroit, Mich.; Geo. W. Harris, Washington, D. C., and the members of the Philadelphia Local Entertainment Committee. The day was spent in the discussion of broad plans for the next convention.

The Board went into executive session on the morning of January 18.

President Larrimer appointed Messrs. Townsend and Towles as Auditing Committee to pass on the Treasurer's and Secretary's books. The Committee reported that the books and vouchers were in order, and their report was accepted by the Board. President Larrimer then appointed the following committees: Hotels, Towles; Decorations, Tyree; Official Button, Dozer; Association Record, Towles; Entertainment, Executive Board. Transportation, Townsend; Press, Towles, Ex-presidents Harris, Proctor, and Holloway; Printing and Advertising, Larrimer; Information, Executive Board; (International Exhibit: By unanimous vote of the Board, Clarence M. Hayes was selected as special Commissioner to collect exhibits from foreign countries); P. A. of A. Exhibit, Larrimer and Townsend.

Various suggestions and matters pertaining to the conducting of the 1912 National Convention were formally discussed and the following resolutions were adopted unanimously:

1. After careful consideration of various locations offered by the City of Philadelphia, the Board selected Horticultural Hall.

2. That the week of July 22 be the date of the National Convention of the P. A. of A. for 1912.

3. That the 1912 Convention shall open officially on Monday, July 22, and shall be held from Monday to Saturday inclusive.

4. The Board decided to publish *The Association Record*, which shall

contain the complete proceedings of the 1912 P. A. of A. Convention and Congress, with the revised constitution and complete list of membership. This record shall be illustrated by pictures, to be selected by a jury appointed by the Board, from the 1912 Exhibit, and be mailed to every member within thirty days from the close of the Convention.

5. That every professional photographer in America is invited to send an exhibit of one or two pictures.

6. All exhibits to be delivered prepaid in Philadelphia on or before the morning of July 15, in order to receive consideration.

In order to make this exhibit an educational feature, a jury will be appointed by the Board with power to reject pictures of insufficient merit. All pictures shall be cataloged and hung prior to the opening of the Convention and catalogs furnished free to all members through the office of the Treasurer.

7. Practical demonstrations of modern methods shall be given during the Convention on plans hereafter to be made public.

8. That the Fourth Annual Meeting of the Congress of Photographers shall hold sessions during the Convention, and that the Chairman shall be authorized to issue call for same.

Many subjects of vital importance in broadening the influence of the Congress were referred by the Board to that body for their careful consideration.

9. On petition presented by the President and Secretary of the Woman's Federation, who were present, the Board allotted the sum of five hundred dollars to be used in defraying expenses incurred in collecting and preparing their exhibit, increasing their membership and influence.

10. Features for the instruction and entertainment of the members of the P. A. of A. be duly provided for according to the plans laid down at this meeting.

11. That the Hotel Walton be made the official headquarters of the Association during the period of the Convention.

12. That an official button denoting the grade of membership in the Association be issued in the usual course.

13. That spaces sold to the manufacturers and dealers in the Convention Hall be provided with booths and decorations, following a uniform plan, at the expense of the Association.

14. That Wednesday, July 24, be "Atlantic City Day." That complimentary tickets will be furnished all members of the Association through the Treasurer's office. These tickets will include transportation and return, luncheon, bathing, admission to pier, and other entertainments.

15. A hearty vote of thanks was tendered by the Board to the Philadelphia Entertainment Committee for their cordial welcome, coöperation, and assistance to the Board in completing their work.

Rulings of the Board

Whereas, the amendment to the Constitution relating to the active membership of others than studio owners was referred by Congress to this Board for interpretation. The Board ruled as follows:

That no member in good standing shall be deprived of membership by retroactive amendment, and that all ruling by Congress to the contrary is unconstitutional and, therefore, null and void.

MANLY W. TYREE,
Secretary P. A. of A.

Secretary's Annual Report of Expenditures of P. A. of A. for Year 1911

Academy Committee Expenses Account

Attending January Meeting, Chicago:		
Mr. Hayes	$23.75	
Messrs. Harris and Tyres	47.35	
Mr. Stein	22.60	
Mr. Knafil	51.80	
Mr. Lewis	30.40	
Mr. Holloway	38.75	
Mr. Hearn attending February meeting, New York	14.00	
Mr. Lewis, Chairman, expenses typewriting, postage, etc.	35.95	
		$264.60

Advertising Account

"Abel's Photographic Weekly"	$25.00	
"Wilson's Photographic Magazine"	25.00	
"Photographic News"	25.00	
"Bulletin of Photography"	25.00	
Half-tones and electros for advertising	83.04	
Display cards and muslin signs	12.60	
Press services, J. C. Abel	50.00	
J. E. Scott, typewriting	12.75	
N. H. House, reporting proceedings of convention and Congress	170.00	
15,500 circulars, addressed and mailed	155.00	
		583.39

Association Incidental Expense Account

Drawing of Armory	$3.00	
Express on books	1.20	
Photographing booth	3.00	
Association buttons	200.75	
Identification buttons	20.00	
Freight on foreign exhibits	11.05	
Express charges on advertising matter	8.40	
Restoring Crump's prints for exhibition, packing	52.00	
Drapery, backgrounds, etc.	16.03	
Transfer company	29.81	
Thirty-three lantern slides	16.50	
Rental music cabinet	4.00	
Services of model	25.00	
Photographing Armory	2.50	
Cleaning and laying carpets	14.00	
Packing and storing frames at Armory	21.25	
Express on Daguerre exhibit	11.69	
One silver vase for Miss Dührkoop	50.00	
Stereopticon used at St. Paul	30.00	
Express on boxes	22.50	
Services and expense of floor plan	26.19	
Rental Co. C room at Armory	25.00	
Electric light installed in hall	71.95	
Labor and material preparing hall	404.19	
Water and ice for convention	15.00	
Doorkeeper	18.00	
Use of hall overtime and Co. rooms	200.00	
Services of watchman and janitors	55.00	
Decorating stage and lecture hall	20.00	
Contract for booths, decorating, etc.	840.16	
Rental of desks, tables, and chairs	135.50	
Music for week	30.00	
Janitor service	6.00	
Rental of Co. E room in Armory	25.00	
Bond for Treasurer	24.00	
Expenses Ex-President Proctor from Milwaukee convention	12.00	
Rudolph Dührkoop as instructor	500.00	
Wm. H. Rau, lecture	100.00	
Leslie Miller, lecture	125.00	
		3175.67
Carried forward		$4023.66

Executive Officers' Expense Account

Brought forward		$4023.66
President:		
Attending Executive Board Meeting, January	$97.25	
Stationery and travelling expenses, April	139.11	
Attending Convention, July	225.57	
		461.93
First Vice-President:		
Attending Executive Board Meeting, January	$53.20	
Expenses prior to and at St. Paul Convention	80.30	
Expense to St. Paul and return	103.50	
		237.00
Second Vice-President:		
Attending Executive Board Meeting, January	$33.50	
Expenses prior to and including St. Paul Convention	103.40	
		136.90
Treasurer:		
Attending Executive Board Meeting, January	$90.75	
Expenses prior to and including St. Paul Convention	125.08	
		215.83
Secretary:		
Attending Executive Board Meeting, January	$138.00	
Expenses to St. Paul Convention and return	166.05	
		304.05

Hotel Expense for Officers

Rooms and meals January meeting	$98.80	
L. N. Miller, hotel expense	16.55	
Banquet, July, to Members of Association	65.50	
Rooms and meals for Officers during Convention	220.98	
		401.83

Officers' Incidental Expense Account

Secretary	$104.19		
		$104.19	
Treasurer	$226.92		
		226.92	
First Vice-President:			
Expense installing Exhibits	$28.00		
Packing Exhibits	44.95		
Postage, packing, labor	12.25		
		85.20	
			416.31

Printing Account

Printing and delivering annual complete	$1210.00	
Stationery, electrotypes, envelopes, catalogues, folders, etc., 45,000 pieces	544.99	
		1754.99

Women's Federation Account

Mrs. Geo. Stevens, lecturing expenses	$155.00	
Lantern slides used	38.80	
Incidental expenses	148.88	
		342.68
Commission allowed Treasurer for 1910, 5 per cent.	$408.15	
Commission allowed Secretary for 1910, 5 per cent.	408.15	
		816.30
		$9111.48

SUMMARY TREASURER'S REPORT FOR 1911

RECEIPTS

Cash on hand January 1, 1911		$7,032.69
Received from memberships and dues	$3,192.00	
Received from sale ladies' pins	61.50	
Received per capita tax Affiliated Socities	293.25	
Received per capita tax Affiliated Societies (1912)	50.00	
Received from advertising	1,620.00	
Received from sale of floor space—St. Paul	4,345.00	
Received from Manufacturers (Electric L)	38.20	
Received from sale extra copies Annual	3.00	
Received Interest	105.00	
		9,707.95
		$16,740.64

DISBURSEMENTS

Paid out on vouchers No. 1022 to No. 1133	$9,111.48	
Cash on hand	7,629.16	
		$16,740.64

FOCUSSING PORTRAITS

THE adjustment of the focus of a photographic lens may appear to many who believe themselves to be skilled operators such a simple matter that they will wonder what there is to be said about it, but the older hands who worked in the days of slow plates, and who had perforce to work with large apertures, know that there is much to be learned in the way of focussing, if the best work that it is capable of is to be got out of any rapid lens, particularly if it is of the portrait type, with a considerable amount of curvature of field. Flat field lenses are somewhat different in their characteristics, and do not allow the display of so much skill on the part of the user, but they will nevertheless respond more readily to the touch of one hand than to that of another.

On taking any lens into use it should be carefully examined with the help of a test object, so as to ascertain not only the general quality of its defining powers, but also the nature of the definition in different portions of its field, as well as the amount of curvature of field. For practical purposes this may be carried out in the studio by fixing a number of printed cards upon an ordinary background, so that they cover a space of about six feet by four. The camera should be placed at a distance equal to that necessary for taking a full-length portrait, and the centre carefully focussed; the camera extension should be accurately measured, and then one of the cards falling upon the edge of the field should be focussed and the camera extension again measured. The difference between these measurements will be the amount of curvature over that portion of the field which will be most generally used. The character of the definition should be closely examined with the aid of a focussing magnifier. If the marginal definition is nearly as good as the centre, then there is little astigmatism present, and the lens can be used upon suitable subjects with a very large aperture, provided that the sitter be so arranged as to accommodate the image to the curve of the field, a point to which we shall recur later.

When astigmatism is present, perfect sharpness cannot be obtained at any considerable distance from the centre of the field, and the point of best definition between the extremes of astigmatic aberration carefully chosen. This primitive method of testing is recommended as approximating more nearly to the actual conditions obtaining in portrait work than the more exact methods of the optician, which are often more delicate than is necessary in practice.

Having, by a few experiments, got some idea of the capabilities of our lens, we may proceed to put our knowledge into practice by substituting a sitter for our test cards and trying to get an image of fairly uniform sharpness with as large a lens-aperture as possible. Let us assume that our model is a man seated, and that we wish to obtain a three-quarter length figure, cabinet size, the lens being a protrait combination with a focal length of 10½ inches, and an aperture of f/3 to f/3.5, and having a notably curved field. We must start by lowering the front of the camera by about three-quarters of an inch, so that the head, being the more distant point, may fall as near as possible in the centre of the field, but above the centre of the plate. The head is now focussed, and it will be found that the knees of the sitter are also fairly sharp, a slight adjustment of the swing-back being all that is necessary to make the whole figure so. A head of moderate size requires the axis of lens to be kept quite central with the plate, the necktie being more distant from the camera than the nose and coat lapels. With a full-length standing figure the best results are obtained by having the lens at a level with the breast of the sitter and pointing slightly downward, the camera front being raised about a quarter of an inch. In the case of lenses in which astigmatism as well as curvature exists, the latter is usually less in amount when using such an instrument; the best average focus must be obtained, and the aperture reduced until the image is sufficiently well defined all over. We have dealt rather fully with the use of a type of lens which many may regard as obsolete because we have lately come across instances of excellent instruments being put out of service because the present owners did not know how to use them properly. They had got into an easy-going way of using anastigmats of fairly long focus which required little or no skill, and on dull and foggy days deplored the flatness of their negatives, due to the distance between lens and sitter, while they neglected lenses which, intelligently used, would have removed all their troubles.

Flat field lenses such as the more rapid anastigmats of the Unar, Planar, Tessar, or Homocentric types present less difficulties in use, but naturally call for a greater use of the swing-back in the case of sitting figures. For full lengths they are, of course, much better than the older lenses, but in the case, say, of a bride's train, the advantage, if any, is not great.

While it is not desirable to spend too much time in focussing, it is, on the other hand, just as bad to do it in a hasty and perfunctory manner. Many photographers habitually work with too small an aperture to give roundness in the lights and transparency in the shadows, because either they do not know how to "divide the focus" when using a large aperture, or are too lazy to do so. The eye, the necktie, and the watch-chain, for example, should be successively focussed, and that point selected at which the best average definition is obtained. The difference between a negative taken under these conditions and one in

which the focus is obtained on one point only, say the eye, is most marked.

There are few people who can focus as well without a magnifier as with one, and although many operators say that they cannot be bothered with one, there is actually a saving in time by its use. It is perhaps needless to say that it should be carefully adjusted to suit the eyesight of the individual using it, and that makeshifts such as reading glasses or watchmakers' glasses are useless. The surface of the ground glass should also be in good condition, being kept clean on both sides and slightly greased if new. A suitable canopy is also very desirable instead of the loose focussing cloth, as it enables the general arrangement of the picture to be seen with ease, besides conducing to the neatness of the operator's hair, a point of some importance to the numerous lady photographers of today. —*British Journal of Photography.*

ON RUNNING A HIGH-CLASS PHOTOGRAPHIC STUDIO

BY L. HAWEIS

As there are more ways than one of killing a cat, so there are more ways than one of running a studio. If "tabby" is your objective, you would hardly adopt the tactics usually associated with the pursuit of "stripes." If you propose to run a stamp and postcard outfit, you would hardly go about it in the same way as though you were angling for the cream of society. Even the details of business, with which the general public has no concern, would differ, and differ very widely. In the very cheap trade, the careful numbering and storage of negatives, for instance, is so much waste of time, space, and energy. In business you cannot afford to do what you are not paid to do any more than you can afford to do what there is no object gained in doing.

The method of running a studio depends upon three conditions: What you can do; How you do it; and Whom you do it for.

Trade or Profession—According to the Photographer

The photographic studio is a trade or profession—is, in fact, what you can make it. The less of the personal element that predominates the more of a trade it becomes, and *vice versa.*

What, in short, is it that you want to do? Are you after the volume of trade, or high prices in particular? Will you cater to the masses, the vast and predominating demand for a reliable map of the human animal dressed as the dolls of social requirement? or, Are you striving to appeal to the nobler instincts, character, and refinements cultivated and fostered by the high exponents of a latter-day civilization? Given the ability, this question, or something like it, is the first that you will have to decide. And you will decide it by what you can read into the practice of it in the way of modification with reference to your own particular necessities and devotions.

Personality

Personality is the most elusive thing in the world, but, whatever it is, and whatever it means, that is, how it reacts upon our fellow-mortals, and to what end, these considerations at any rate may be differentiated for

the purposes of this note. We can say, for instance, that the man who attracts us, with whom we feel personally at ease, whom we respect before we know (whether we respect him afterward or not), who can make us forget ourselves in the interest of his society—that man has personality. I mention these points only in illustration of that phase of personality which lies on the surface, that, like the sparkle of some precious metal in a chunk of dross, attracts and interests from the outset. And, for a client, the moment he enters your studio, to feel interested and attracted by the personality of the photographer is half the battle of the business.

And yet this man may be a cold enough fish when you come to know him better. That points to the fact that personality on the surface only serves one purpose—if a very valuable one; that other, and perhaps "better part," reveals itself only gradually through prolonged intercourse and better acquaintance. Interest must be sustained beyond the reception-room, beyond the skylight, and beyond the threshold of your business. It must invade the innermost sanctum sanctorum of clients themselves; its influence must be felt there, where the surface-sparkles cannot reach to illuminate.

The Money-end—Tact in the Reception-room

To be poor in either of these qualities, gifts of personality, is to be the worse for it; in the first case interest will be inspired but not sustained; in the latter, the interest can only operate after the tools of enforced social intercourse have mined and brought it to light.

The next asset of the photographer, whatever his personality, I put down as Tact. Tact may or may not be a feature of your strong-personality man, but, if it is not, he will suffer grievously in his business relations with clients.

It has been said, and very truly, that the money of a photographic business is made in the reception-room; consequently, if you are wanting in tact and resource, if you are naturally impatient and have difficulty in concealing annoyance, leave the business end of your establishment in the hands of one perhaps not so gifted as yourself, but who has just that modicum of tact and good manners which in many businesses, and it may be in yours, is worth all the personality of a dozen others like you rolled into one.

To Some—Talk of Qualities, Not Prices

After all, your reputation must count for something. People come to you—the heaven-born artist—knowing that you can and will do them justice. They come to you for pictures; take them, and without unnecessary delay. Prices and styles with proofs. That is the ideal way. The discussion of prices with such as I have in mind is the fly in the ointment; for, remember, the best class of client, to whom perhaps you are no whit inferior intellectually, is in its way just as touchy as yourself. A dollar more or less to these people is nothing, provided they get what they want. Of course, even the best studios are not visited by exactly the same class of people throughout. That being so, how much better to leave all classes in the hands of your receptionist! Rather than talk prices let her prove and exhibit to clients the value and virtues of your work. Satisfied with this, the last qualm is

dissipated, and they enter the dressing-room fully aware of the satisfaction they will receive at your hands.

To Others . . .

But there will enter those—strange to the special working of your establishment, who will demand prices and styles before they sit; and there will be times when the proprietor will be quite unable to avoid them without rudeness. In that case, he must do the best he can. Under these circumstances, he would be well advised to have a little conversation ready. Having replied to a number of questions in terms of cash, he may find his opportunity in such wise:

". . . . but I really dislike discussing prices, especially at this stage. It seems to rob me of my chief pleasure in taking pictures." Thus, the personal note is introduced, and, noting the effect of this little speech, he may then confidently continue:

"You know, what appeals to me is that my clients should feel satisfied from my pictures that I can do them justice. If that should be so in your case, this is what I propose to do: You have told me what you would like," or "I have seen which are the styles you most favor, but I would suggest that I take several different positions in several different sizes. That is my usual custom. It really is more satisfactory than sitting for one particular style and size, as it gives you a choice you would not otherwise have. It also affords me an opportunity of showing what I can do in your own case, and it will cost you nothing but a little extra time. Indeed I would go so far as to say that, if you have not ample time at your disposal now, I would suggest you make an appointment for some other day when you would be more at leisure. Nearly all my work is by appointment; but my convenience in this matter shall be yours. Then when we have the proofs you can decide which shall be finished off. After all, we can do nothing without the negatives, and you can have them completed in any style and at any price which you may then decide upon. What do you think? Shall we try several positions, including, of course, some of those you fancy?" And you will find that in nine cases out of ten the personal bait will be swallowed—as, indeed, it should be. It sounds good, to most people, in my experience; it proves workable, and the principles are sound.

"And if none of the pictures suit, how do you arrange?"

"Well, you can sit for your pictures as often as you like. No charge is made for this. That is the only way I can guarantee my work; and by that means I am sure that none but satisfactory pictures leave this gallery. But I very rarely have any re-sits, owing to the number of positions I take in the first instance. Re-sits are troublesome to clients; but those who desire to re-sit are welcome as often as they care to visit me for that purpose."

This is straight talk; it is more. It is straight dealing; it is more. It serves to emphasize the personal equation for which people will pay.

Some Maxims in Reception-room Arrangements

And the third requisite is Taste.

As soon as a client enters your premises, she should find that about her which will move to admiration, or at least, not incite to antagonism. Everything should be orderly, clean, and in good style—the style of the proprietor—for "style is the man."

If you care to make it so, the reception-room can be "homely," furnished

and upholstered much as you might choose for a living-room, not sacrificing anything, of course, in the way of viewing convenience. The lighting of the pictures should be good, just enough and not too much. It is hardly realized, or, at least, it is rarely practised among the fraternity, or even by exhibition committees, that photographs are best seen by reflected light. This is fairly common to find in the case of, say, big-framed portraits; but the principle applies just as much to small work, and, given the taste and desire, it should not be impossible so to arrange practically all pictures on show in such a way that they are never seen in direct artificial light. If daylight, it must at least be soft and diffused.

When to Talk About Prices

And the less obviously a showroom is a showroom, the better sort of showroom it will be—the more restful, the less distracting. Relegate to an ante-room, if possible, all evidences of business—desks, ledgers, pigeon-holes, and the like. Keep the cash department in the background, as you may find it, as I have found it more satisfactory to keep the actual discussion of prices until the time you can discuss such matters with the proofs before you. The mere viewing of the proofs tends to distract clients' thoughts from the cash consideration. This does not necessarily mean that you take no deposit, although, in the case of guarantee work and no charge for re-sits, deposits are apt to lose their extrinsic value. It might be your business rule that every client pays a fixed sum before sitting—say, $5—what you will, that is your affair. But with the class of client I have in mind you will probably find you can do without even this business method. If so, all the better. At the least, you can use your discretion. And this is easily done, since your receptionist, in the course of her duties, may mention casually that the same nominal deposit is required of everyone as a matter of form. The best time to arrive at the actual price of the order is with proofs before one. You stand a much better chance then of getting your full price without rebate, and you can, at the same time, best prove your reasons, if required to do so, for charging such a price.

And How to Justify Prices

Every picture, you can then explain, is treated on its own merits. Thus, to say that your mounts are designed by yourself and executed under your direct personal supervision on the premises, and not in California, or Montreal, or New York, means that they are exclusive. You do not buy ten thousand cards and retail them with pictures attached. You do things differently. Having made the pictures you proceed to build the mounts to suit them. This means that you provide a more tasteful picture, regardless of price, than your clients are likely to get elsewhere. This line of talk presents a direct appeal to the client's taste for quality, exclusiveness, and personal attention, which, in most cases, will obliterate any desire to cut price, a thing which you must never do under any circumstances, unless you can see exactly where is the actual tangible return for such concession.

Is this business? I believe it to be business of the best sort, since such methods tend to carry the interest of the transaction into the homes of clients, while at the same time it lifts the whole matter above the level of an ordinary business deal.—***British Journal Almanac.***

SNAP-SHOTS AND EDUCATION

BY ELBERT HUBBARD

ELBERT HUBBARD, who wrote the following interesting preachment, speaks with some authority on matters photographic, he being one of the six honorary members of the Photographers' Association of America. Mr. Hubbard's address before the National Convention in Buffalo, in 1902, is remembered as the best speech ever made at a convention. EDS. W. P. M.

Aristotle lived three hundred and fifty years before Christ. He was a Macedonian. When sixteen years of age, he started off afoot for Athens, several hundred miles away.

His intent was to achieve fame and fortune. He did both. In all history he is the world's most versatile, competent, efficient, effective, happy, healthy, useful man.

He was the world's first naturalist, and very much of our scientific terminology traces directly to Aristotle. The names he called things by are the names that we are calling them by yet.

The methods of Aristotle in school teaching have never been surpassed. Recently, Doctor Stanley Hall, one of the world's great teachers, has said that what we should do now is to catch up with Aristotle.

Aristotle's methods of teaching were very simple, and the methods he used in transforming Alexander a bad boy, into Alexander the Great, a most efficient general and a wonderful engineer, are well known and understood.

Aristotle said: "When you get a child interested in the living and growing things in Nature, and on good terms with the great out-of-doors, the whole problem is solved."

The Best Teacher

Energy misdirected, wrongly diverted, or unusual, turns to crime. The bad boy is only a good boy who has done the wrong things. Our business as teachers and parents is to direct the energies of our children into right channels.

We are a part of Nature, and the more we understand Nature, move with Nature, and love Nature, the healthier, happier and more useful are we. Abstract studies in books may give a child a beautiful distaste for learning. We all know of graduates who were so happy in getting safely through college, and securing the much-prized diploma, that they never looked in a book afterward. After graduation, their life seemed simply a matter of sloughing off the knowledge that they had acquired. If school and college do not give your boy a genuine taste for study, so that he will go on of his own accord without a teacher, the lessons will be in vain.

The Beautiful World of Nature

I have been a teacher for more than thirty years, and I cannot imagine any more effective way of teaching than the Aristotelian idea of interesting a child in the beautiful, growing things with which we are surrounded.

The first problem is to get him to observe and see things—not in the mass, but particular things. Art is a matter of selection.

The artist does not attempt to paint all of the out-of-doors. He chooses just simple little fragments.

In East Aurora is a girl who paints exquisite pictures in oil and in water-colors. These pictures command big prices and are highly prized by collectors, and all this girl paints are simply trees — gnarled, drooping, knotty, old trees; trees strong, straight, tall, beautiful, their branches in the air and waving defiance to the storm. This girl picks particular trees. She is on the lookout for individuals in the tree-world.

The bark on trees is to her wonderful and peculiar, just as the grain in the wood is wonderful and peculiar. The grain in the wood is the history of the life of the tree. It is the record of the tree's struggle for existence. There is just as much individuality in trees as in men and women. No two trees are ever alike, and this girl has shown such ability to closely observe, and such love of the theme, that she is able to transfer her observations to canvas.

Curiously enough, this girl paints her best pictures in her studio, and not out of doors.

She gets her pictures with a camera, and will often photograph one particular tree from a dozen different angles. These photographs are developed, duly labeled, and filed in separate envelopes. Then, during the long winter months, the artist paints her pictures from memory, aided and abetted by the truthful camera.

The camera is memory's maid-servant.

Get the Camera Habit

All artists now make much use of the camera. The first requisite in art is to observe. You have to see the separate things, and so my advice to the teacher and parent is—allow your children to get the camera habit.

Children take to pictures with delight, and once a youngster owns a camera, he is on the lookout for subjects.

Wherever he goes, his eyes are wide open for the wonderful, curious, peculiar, beautiful things in Nature.

Once you begin to observe, you find the beautiful, the wondrous, the peculiar and the strange on every side.

Get the beautiful in your heart and you'll see it reflected everywhere.

The mental attitude of wonder is the one thing, I believe, that differentiates a great man from the mediocre. Wonder leads us to investigate, to search, to study. Without wonder, we never get an artist, a poet, an orator, a scientist.

The camera habit leads to tramps afield. And I hope I do not have to prove that people who are on good terms with God's wonderful out-of-doors are well and happy all of the time, as we certainly should be. The red cheeks, the bright, clear and lustrous eye, the sweet breath, and the innocent laugh—these follow as does night the day, the tramps afield.

The Joy of Collecting

Aristotle got his pupil Alexander interested in making a list of all the plants in their vicinity. They collected specimens, and classified, organized, and named the various things. They made the world's first herbarium.

They formed a geological collection. Next they set about to make a zoological garden. They captured one of every living thing that they could find, and, if cared for, could keep alive. When Alexander was on his tours through Asia, on his little business of conquering the world, he was constantly sending specimens back to Aristotle. And once we find him writing a letter thus: "My days are busy and full with strife. I long

for the quiet of your companionship, and the old days when we roamed the fields and the desert, intent on discovering the things that the world had tramped upon and overlooked."

The Child Mind

A child ten years old is old enough to begin to get the camera habit. Such a youngster will be interested, delighted, and his sense of wonder wil begin to expand. Wherever he goes he will be on the lookout. He will snap pictures of his pets, of the family.

Soon he will get an eye for pose and position. He will study the light, the clouds, the sunshine, the movement of things by the wind, and the different appearances of objects at different times of day.

The Kids on the Farm

A man said to me yesterday: "The only objection to the camera is that when Mary and Joe go to ride with me, they are always wanting me to stop so they can take pictures. They see more things since we bought those cameras than I ever imagined existed."

And so it happened that this man, who owned a Pierce-Arrow, left Mary, aged fourteen, and Joe, twelve, at the Roycroft Farm.

Each youngster was armed with an Ansco. The girl had one which she said had cost her eight dollars, and the boy had a Buster Brown which cost two dollars.

And Joe insisted that he could take just as good pictures as his sister—and he pretty nearly did. These youngsters knew how to load and unload the cameras right out in the daylight.

We walked down across the creek, through the orchard, and on the way they saw a man in a tree picking apples. There were big piles of apples under the trees, and these they photographed. A boy raking up leaves caught their attention, and they shouted at him, "Hold that, hold that." Ali Baba was their particular delight. They found him sitting in a wheelbarrow, and immediately he was ordered to "Hold that."

Then they had him stand up and tell a story, and while he told the story they snapped him from several angles.

Pigs in the pens delighted them, and they insisted that I should get a bucket of swill and let the pigs follow me, and this I did, they declaring that I was "in good company and seemed very much at home."

Like our friends at the stockyards in Chicago, they utilized everything but the squeal—cows, calves, chickens, geese, ducks—and then came Garnet, my saddle-mare, with her baby colt six weeks old.

The name of this colt is Fra Asbestos. He has a star in his forehead, a snip, three white feet, and a pedigree as long as that of two Daughters of the Revolution.

His mother is the greatest horse I have ever owned, and I have owned hundreds of them. She is seventeen years old, and I have ridden her more than twenty-five thousand miles.

Naturally, we are all very proud of little Fra Asbestos. He is the smartest, cunningest colt you ever saw. Usually he manages to keep his mother between himself and danger.

I think his mother silently instructs him as to what to do.

Anyway, when he sees us coming with the halter, he gets on the other side and it is a hard job to catch him. Once in a while you hear him whinny to his Ma to kick the stuffing out of us, and she, being a sensible mare, whinnies back, trying to pacify him,

because she knows that he is only a chee-ild and must not be taken too seriously. The colt was a great delight to Mary and Joe. When little Asbestos put his star and snip around the corner of his Ma to see if the coast were clear, they snapped him.

Then we got the halter on little Fra Asbestos. Mary held him while Joe insisted on getting astride of Garnet, and I was instructed how to "sight" the Ansco and take the picture.

After this, I was ordered to clamber up on the back of Garnet, and the youngsters gleefully cried, "Hold that, hold that;" and so I was passed down to immortality.

Joe and Mary each have a big scrapbook which I made for them in the Roycroft Shop. Always after taking pictures, they date their snapshots, and prints are made and pasted in the scrapbook. So the scrapbook is a pictured diary of where the children have been and what they have seen.

Down Along the Creek and Beyond

After they had taken Garnet and her baby from various angles, we went down across the pasture to the spring, through the winding path that leads through the sumac, until we came to the big gate pillars built by the Roycroft boys. The hawthorns were losing their leaves, but the berries were ripe.

Beneath these hawthorns we found a brood of guinea-hens, nearly full grown, industriously scratching in the leaves.

The children were all aglow with excitement. They wanted to catch the guinea-hens with their cameras, and so we softly circled around and whistled all the time, so as not to frighten the guineas, and finally they succeeded in getting three or four good pictures of these shy birds at close range.

Down by the creek they found a boy just pushing a canoe out into the water, and of course he was ordered to "Hold that;" Then Joe got into the canoe with the boy and was duly snapped.

We followed down the creek, past the old walnut tree that forms the natural bridge, for Fate had that tree fall exactly where it has served as a footbridge for ten years past, and over it have tramped hundreds, yes thousands of people.

At the bend of the creek is a leaning sycamore, and the water is washing away at the roots of the tree until finally that sycamore will go over and form another bridge.

The cows down on the flat, at the bend of the creek, there in the clover, interested the children greatly. Several of the calves came up to me, thinking I had salt for them, and Mary yelled, "Hold that;" so loud and suddenly that the calves scampered off across the fields and were lost to the cameras.

We went up to the Royal Gorge, where the water comes down from Ladore. There were little water-falls all along the route, and these were good subjects. There were big tumbled rocks, twisted trees, and dense growths of witch-hazel in bloom. Upon the sides of the hill there were boys picking up the butternuts, and one boy had a bag which was as big as himself. Then there were two boys up the tree, and these, of course, were duly snapped. Then Joe decided he would go up the tree, and snap us from an elevation, and this he did. We were queer ducks.

Coming back home we saw a muskrat swimming off across the creek. We shouted to a lad on the other side to head him off, and he rushed down

to send him over our way, and then Joe, by getting close down by the water's edge, and standing still, got an awfully good picture of that muskrat as he was swimming toward him.

It is one of the strangest and most peculiar pictures that I have ever seen. The kid sent me a print of it which I intend to use in a story I am writing. Not all of the snaps that the youngsters took turned out well, but most of them did, and some were extra choice.

What the Camera Habit Means

This camera habit is a wonderful thing for arousing interest in Nature. It teaches a child to observe, to select, and to decide. It does away with peevish, cross, fretful inclinations and tendencies.

The camera habit means rest and relaxation for the teacher. And about all there is to this teaching proposition, anyway, is to keep the child employed.

We grow through exercise, and the thing that exercises one's faculties pleasurably is the thing that makes for growth.

I think one reason why the country is becoming more and more desirable for city people, as well as for those who fortunately are born and live in the country, is because we are getting acquainted with the great out-of-doors. And the camera is helping us do this.

Faces fade, and the people we once knew, some of them, are gone forever. Children grow up and go away. The old house is torn down. The pets die or disappear.

The time to take the picture is when you see it. The historic value of things, fixed in the form of a photograph, is beyond price.

The camera habit endears us to life, prevents nostalgia, preserves sanity, and makes for health, happiness, sound sleep and good digestion.

The boys in the Roycroft School who have cameras are no care to anybody.

Hunting With a Camera

When you hunt with a gun, you incur big dangers, not only for yourself, but for other people. "To shoot a bird is to lose it," said Henry Thoreau. A dead bird is not a bird at all. It is only the remnant or mutilated remains of what was once a living thing.

To take a picture of a bird and preserve the picture is a great achievement for a child or a grown-up, and when we can change the shooting habit into a camera habit, we have made an immense stride to the front.

We grow by doing things. It is a great experience to see the picture emerge from the film under the wonderful manipulation of the operator.

Any boy or girl who can take pictures can develop them. The ownership of a camera and the care of it, and the developing of the pictures, is an education in itself that cannot in this day and generation be overlooked.

The Ansco cameras are made by the Ansco Company, Binghamton, New York. This concern has been making cameras for sixty years, and more than 90 per cent. of the cameras in use by professional photographers have been supplied by this company.

The Ansco enterprise grew out of the Scovill Manufacturing Company, who made metal plates for daguerreotypes, and accidentally, yet quite naturally, the concern drifted into the business of making cameras, which gradually took the place of the old-time daguerreotype. Very few people are living now who had their pictures taken in the form of daguerreotypes.

What the Ansco folks do not know about the business of photography is not worth knowing. The men who manage the concern were born in it, and have grown up in it, and have evolved with the business.

Amateur photography is practically a new thing. We used to think that only a person of great skill and long experience could take pictures. Now, the principal trade in cameras is with the amateur. As an education, the camera is taking its place right alongside of books.

The predecessors of the Ansco Company are the Scovill & Adams Company and E. and H. T. Anthony & Company. These people issued a big book, advertising a large number of cameras and fixtures which were supposed to be necessary to the taking of photographs. The whole business, now, however, has been very much simplified through the use of the film, which, of course, takes the place of the glass plate.

All educators, teachers, parents, would do well to send to the Ansco Company, Binghamton, New York, for a catalog showing illustrations and descriptions of Ansco cameras, and the materials that are necessary in developing.

This catalog is only a small booklet, but it contains about all that the amateur will want to know about the subject.

The very moderate price at which these splendid cameras are shown is a delight and a surprise to the average individual.

An Ansco camera properly used will last for years. The parts are very simple and can be easily replaced. Any individual of average intelligence can operate an Ansco, and the use of an Ansco in the family will be a source of enjoyment for every member of the household.

The habit of preserving the prints in a scrapbook will be found especially pleasing and entertaining, giving history in the form of pictures. More and more, as the years pass, will many of these pictures be of value, but the greatest value of the camera lies in the fact that it teaches the child to observe and puts him on close and intimate terms with God's great out-of-doors, and the world of living, pulsing things.

The child or man with a camera habit is no longer an interloper between earth and sky. He is never lonesome, wherever he is, because he feels the kinship that exists between himself and all living things.

So to me, the chief advantage and benefit of the Ansco camera is as a means of education and a source of enjoyment for old and young alike. Not all parents are interested in the school-work that the children are doing, but all parents are interested in pictures, and thus, through the camera, do the child and the parent learn their lessons together. And that this cementing of human hearts is good, beautiful, and right, all the world agrees.

Frilling and softening of the film is due to using developer or other solutions at too high a temperature. This causes the emulsion to soften and sometimes to lift from the support. Violent changes in temperature of the various solutions are also liable to cause frilling. Frilling, is however, most frequently encountered in the summer time or in warm climates. The use of ice to keep temperature at the proper point is recommended. Use fresh hypo or and acid hypo bath. Do not wash for too long a time and when drying, place negatives where there is a free circulation of air, so as to dry rapidly.

BARONESS DE MEYER

By BARON AD. DE MEYER

CORA BROWN POTTER

By Baron Ad. de Meyer

LINA CAVALERI

By Baron Ad. de Meyer

Illustrating Sidney Allan's Article

Illustrating Sidney Allan's Article

Illustrating Sidney Allan's Article

Showcase of E. Goldensky, Philadelphia, Pa.

Illustrating Sidney Allan's Article

Gadshill, Kent. Where Charles Dickens lived and died

By CATHERINE WEED WARD

CHARLES ROHLFS: A WORKER IN WOOD*

IN this age of business logic and mechanical over-productiveness, in a country with a population strictly cosmopolitan in character and alien to esthetic interests of a nationalistic tendency, any person who pursues a craft with the vigor and enthusiasm of a medieval craftsman deserves high credit. In America comparatively few art workers realize that it is high art to make an esthetic virtue of material necessities. The young art student here more than elsewhere will neglect the crafts. Even painting does not command the social recognition which it enjoys in European countries, and the result is that there are many excellent wielders of the brush, but few who handle the tools of the artisan with discernment and enthusiasm.

Charles Rohlfs, of Buffalo, is one of the few exceptions. He has made furniture-making a phase of individual expression. He maintains a workshop, makes what he pleases as well as he can, and is lucky enough to find occasional customers who appreciate his work. Art and craft exhibitions are rarely held in America, and his name is not as widely known as one might expect. Europe, however, has not failed to give him credit for his unusual and unselfish activity. He was made a member of the Royal Society of Art in 1903, and was represented at the Turin Exposition (the year previous) by a one-man exhibit, a privilege that was granted to no other American worker in wood.

Rohlfs drifted into art by chance and rather late in his life. For years he had followed the histrionic vocation, and had repeatedly been a member of the companies of Edwin Booth, McCullough, and Barrett. With the death of these superb actors, the taste for tragedy subsided in this country. There was no one to take their place, and the actors of the old school found it difficult to excel in parts that demanded realistic ease and the conversational tone rather than rhetoric splendor and classic deportment. It was at this time that Rohlfs changed his profession. He began as an amateur, merely to while away some leisure hours, and he undertook rough-handed the exceptional and ambitious task of furnishing his residence with furniture of his own design and make. He had a predilection for architecture, but he had made no special study of art.

There are, broadly speaking, two classes of successful art workers: Those who study everything and everywhere; who travel, apprentice themselves, and who, despite being saturated with the knowledge of ages, still retain sufficient spontaneity to add to it their own show and individuality of expression. The others try to gather their knowledge in seclusion, and rely on personal experiment and experience rather than on memory and selection. Rohlfs belongs to the latter class. He is self-educated. An artist in a manufacturing town in the States is necessarily isolated; there is no art life in the European sense, no exchange of

*This article was written originally for the *London Studio*, but could not be published on account of business reasons. It is now published in WILSON'S MAGAZINE, as it treats of a subject that should be of interest to all photographers. The article is really a protest against the old-fashioned studio furniture, and a plea for the introduction of individual and artistic pieces, that will not only prove valuable as accessories, but give to the establishment an air of distinction and refinement. Mr. Rohlfs made the showcase for Goldensky's former Walnut Street Studio, and many of his friends will, no doubt, recall its novel and picturesque construction.

ideas. All stimulating influences reach the studio only by reproductions or verbal reports. There is nothing left but to build and enlarge upon one's own experiences, and to find out for one's self the vital principles and germinal elements of beauty that underlie all good art work.

A utilitarian art, if it possesses any merit whatsoever, must have a racial or local flavor. America, as yet, has created no decorative art of its own. The primitive designs of the red Indians are illustrative in character and deal largely with color, and their tents were void of furniture. The nomadic instinct refuses the structural exploitation of form. Furniture is largely a matter of proportion and the relation of parts, and is dependent largely on architecture. American architecture of today is historically reminiscent and imitative. It has merely two classic prototypes—the frugal, elegant Colonial and the Spanish "Mission" style. Rohlfs, although he makes use of both, is particularly fond of the latter. With clear discernment he has adjusted their characteristic units to his specific aims and dreams of formal expression, and it is claimed that he is the originator of the modernized and now so popular "Mission" style. The furniture of the refectories and dormitories consisted of little more than benches, tables, and bedsteads, of no more artifice than necessity demanded; but their simplicity of form was pleasing to the eye, and they all had the same finish—tinted wood, hardly varnished, showing the grain. This was the fundamental idea. And all expansions (modifications being scarcely possible) must evolute from this starting point.

No doubt many amateur attempts had been made before Rohlfs took up the idea; but he treated seriously, exploited its various possibilities, and applied it to various decorative purposes that are not closely allied with furniture-making. He rearranged and reapplied the original attributes in wholly novel situations and conjunctions. He is continually bent upon new inventions and rarely uses a design or pattern for more than one set. His work attracted attention, and as it combined use and beauty was imitated more or less scrupulously until public favor reduced the style to a factory product. But Rohlfs remained loyal to his creed, continued to work independently, following the dictates of his fancy, at all times anxious to overcome deficiencies in composition and limitations of structure—so frequently imposed by cost, special events, and the taste of clients—by activity of imagination and superior workmanship.

There are four main factors that enter into the invention of new furniture forms: structure, usefulness, material, and ornamentation.

Rohlfs has an opine sense of proportion, for the balance of parts; although some pieces, as desks and chiffoniers (unwieldy at their best), look a trifle bulky. This is not always due to the solidity and heaviness of the material but rather to an emphasis of architectural features. He frequently indulges in effects of massiveness—gravity of shape and harmonious pomp—but he is equally efficient in lighter pieces that show the outlines clearly against space or backgrounds. In his curvilinear work he is very simple. He applies with preference fragments of the ellipse form and in a way that they impress one as being organic, perfectly consistent adjuncts. He is at his best when he simplifies his structural thoughts, and with the use of Mission material approaches the slender grace of the Colonial style.

He excels in shapes that have no solid base of support and that bring out the parallelism of narrow vertical lines, as in some of his tables, armchairs, bedsteads, and chafing-dish stands.

The different parts of a piece of furniture are, as a matter of course, mostly symmetrical; but Rohlfs often indulges in disproportion in the balance of symmetrical units, as the Japanese. He fancies the abrupt, the straight line that suddenly comes to a break and flows on in a curve, some rythm or color note that would animate the dead material and enliven it with dramatic interest, some highlight, some climax of structure or embellishment.

For that reason his work at times reminds of the *art nouveau;* but he has little in common with that wilful style, as he is dependent not so much on suggestions from natural as on architecturic forms. Even in some of his candlesticks—exquisite caprices of fancy—he uses forms of Oriental architecture, as, for instance, the imaged column of Chinese palace gates.

This striving for freer movement may lead him at times to shapes and surfaces that do not conform exactly to usefulness. Some of his furniture makes the impression as if it were not exactly comfortable. He claims that he always constructs for practicality and that unusual forms and shapes should not prevent owners and occupants feeling at their ease. If such is the case, the French terms *cherché and suppiné* would be more appropriate to characterize, for instance, the narrow, tall backs of some of his chairs. A dainty, scientific method of uniting the various parts of a piece are always palpable, and the beauty of detail generally condones for any shortening.

In the choice of material he is guided by Mission principles and imagination. He does not fancy elaborate finish of the wood itself, but puts particular stress on the selection of beautifully grained, well-seasoned wood.

His particular strength lies in the ornamentation. There he can give free vent to his sensitiveness and sympathy and subtle adaptive skill. Most of his ornamentation is personal hand-carving, and as one studies the thousand and one caprices made in true improvisatore fashion that have left his workshop during the last twenty years, one is astonished at the simplicity and grace of the economy with which it exactly fulfils its purposes. Similarity of embellishment in a single piece is cleverly avoided. Only in bureaus and desks, where repetition is demanded by the parallelogram shape of drawers, it appears with a sort of rythmic regularity; as also in the beautiful four-leaf screen that attracted so much attention at the National Art Club exhibition, New York, where the repetition of a simple floral figure in the enclosures produces a fascinating tapestry effect. The ornamental themes generally go back to elemental, symbolical, or old architectural forms like the Celtic. Although entwined, interlaced, and carrying out a complete meander, they are extremely simple, clear, and free. Rohlfs has no use for the oblique movement, or any elaborate interpenetrated fashion or scroll work of the Renaissance. His work consists of embellishment pure and simple; of overlaying, so to speak, the skeleton structure with passages of decorative grace in the right connection and right location. It is frequently of rare value for the esthetic sense, as in the candlestick which suggests its domestic usefulness by picturesquely imitating the flow of stearine.

Rohlfs invariably goes his own way, an opponent to mechanical form and distribution, and although tempered at times by the requisitions of daily comfort, mechanical and material conditions, and hampered—as we all are—by the limitations of his own ardent individuality (occasional divergences from appropriateness), he allows no serious fetters to interfere with his impulses. Wherever reason leads, whither fancy strays, he endeavors to follow, to explore curiously, to wrestle with problems with firm hand, anxious not to be decoyed by the practices of a work-a-day world.

A craftsman of today, to accomplish this, will be called upon to exert unfaltering constancy, insight, spontaneity, power, and an ever-fresh sensitiveness of touch. He will encounter indifference, obstructions, prejudices, yes, even the persecution of the narrow, ungenerous, and unrefined; but he will have the consolation of having every true lover of art as his partisan, friend, and admirer.—SADAKICHI HARTMANN.

THE USE OF STANDARD DEVELOPERS

BY JOHN P. GLOVER

THE reader will remember my brief article in the last issue of the *Process Annual* on the preservation of standard reducers, and the promise then given to add a disquisition on methods of standardizing the development and the previous exposure of bromide or other prints.

By employing the system now to be explained, the worker will soon find that any trouble taken to bring the method into operation will be amply compensated by the saving in time and money which will ensue in all subsequent printing and developing operations.

The method is equally applicable to bromide printing or enlarging.

To ensure the obtention of uniform results under varying conditions, it is necessary to standardize the developer, the illuminant, and, finally, the sensitive material used. Since a perfectly exposed bromide print cannot be lost by overdevelopment, the factor of the duration of development does not enter into the question, and in practice this may actually be neglected. In my previous article the means of commanding a standard developer were explained.

For contact work a standard illuminant is obtained by fitting to the bromide printer an incandescent gas burner with large orifices, so that an excessive supply of gas may be checked until the maximum light is obtained.

There remains now only the factor of exposure, and this is governed, first by the speed of the paper or plate used, and again, by the destiny or color of the particular negative to be used. A negative is taken from the cabinet, the thinnest printable negative in stock, and a sheet of bromide paper as commonly used is printed for one second and developed.

This test exposure is varied until a perfect print results. We will say that this print required three seconds. The negative is now permanently marked with the speed number "1," and the speed of the bromide paper is registered as "3." It will be found

after a little practice that one can accurately judge the speed number of an untried negative at sight, and after development the number is pencilled on the corner of the negative, and every print or *enlargement* subsequently made from that negative will be found to render a perfect result, thus saving much hard cash in trial prints and indifferent or ununiform results.

Now in enlarging, standardize the illuminant as above described, use the open stop, and focus the standard negative until the image on the screen is precisely the size of the image on the negative. The distance from the lens to the screen is now measured, and the correct exposure is carefuly ascertained by trial.

We now have all the data required to place all future enlarging, from any negative, on a strict scientific basis of mechanical accuracy, and we can thus, at any time, make an exposure on a large scale, sure of turning out a perfect enlargement on development.

Assume that the exposure required was 5 seconds, the distance from lens to screen being 8 inches. Then, as the intensity of the light varies inversely as the square of the distance, we can construct with ease a table of exposures for all subjects. As the stop-marks (the "F" values) on the lens are in this inverse ratio of squares, we can conveniently use these values for our table.

The following will give the exact exposures for the standard negative, for all distances from lens to paper, the lower line indicating the "times" by which the index number of the standard negative must be multiplied to give the exposure:

Lens to paper	6	9	13	19	22	32	38	45 in.
Exposure .	2½	8	16	32	40	80	128	160 sec.

The figures are approximated into round numbers.

To adapt the table to other conditions of lens and light, all that is necessary is to find the distance from lens to paper, and the exposure required, and double that exposure under every alternate distance number in the table. Thus, for a lens giving a distance of 9 inches, and an exposure of 10 seconds to reproduce the same size, 9 inches requires 10 seconds; then 13 inches requires 20 seconds; 19 inches 40 seconds. Also, 11 inches 16 seconds (approximate), 16 inches 32 seconds, *et seque*.

Finally, should a new brand of bromide paper be used, the speed value of this should be ascertained by trial on a negative of known index number, and the speed as compared with the paper hitherto employed should then be registered, the index values of the negative or enlarging table being adjusted by the ascertained factor.

This is the manner in which the method is applied in daily practice. On focussing a negative on the enlarging screen, the distance from lens to paper is found to be, say, 19 inches. The speed number of the negative being, say, 2½, while the exposure shown by the table for a distance of 19 inches is 32 seconds; 32 × 2½ gives 80 seconds, on which exposure a perfect enlargement will result. But suppose the paper used proved, on taking into use, to require 6 seconds' exposure behind the standard negative marked "1" above, instead of the 3 seconds required by the brand of paper previously in use; then, of course, the registered speed number of the new paper being "6," the required exposure for the enlargement would be 80 × 2; that is, 160 seconds.—*Penrose's Annual*, 1912.

ON LIGHTS AND SHADOWS

LIGHTS and shadows are the breath of the life of photography, the basis of all its claim to be artistic. Decorative composition, individual imagination, and dramatic or poetic expressiveness may be added, but if the foundation is weak the structure totters, however admirable its embellishments.

Hence it is with cordial satisfaction that I welcome so thoughtful a letter as that recently written by Mr. W. R. Bland on a subject deserving the persevering attention of photographers, and I am far from complaining of his clearly and courteously expressed objections to my own conclusions. It would be strange indeed if I had provoked no differences of opinion after, for several years, freely stating my views on somewhat intricate matters, as I have been permitted to do in these columns.

But I am only one seeker among many, and have never imagined that because I may sometimes be able to project a little light, I can afford to dispense with that of others. My aim is rather to stimulate more general and independent investigation, so that there may be a first-hand understanding of matters essential to the progress of pictorial photography.

Still, an appearance of dogmatism must sometimes inevitably arise from the exigencies of Press work, in which opinions have to be stated concisely, with a due regard for space and with little opportunity for modifying clauses. To explain whether and why criticisms were subjective or objective would be impossible in a short article. Mr. Bland has been in doubt on the point, and perhaps others also, so it will be well to take this opportunity of saying that, while my comments are intended to have a basis in objective observation, they are always mainly subjective.

In fact, all criticism must be so, for the critic cannot prevent his work from being tinged by his own personality any more than an artist can, neither being a mechanic; nor is it desirable that he should do so, for machine-made work is bound to be inanimate.

The camera, however, is a machine, and its point of view is entirely objective. This is the very characteristic that we want to improve upon, in order to inspire and vitalize photography with artistic feeling and principles. Here, if I may say so, it seems that Mr. Bland has not quite risen to the occasion, for he relies on "pure photography and a good plate" to produce truth of light and shadow. But it can be only objective truth, and if this were sufficient, a reflection in a mirror would transcend any picture, while personal sensitiveness to the moods of nature, and artistic translation of her effects, would be of less worth than a first-class instrument.

However, I can conscientiously say, after a fairly extensive and close examination of the best output of the camera, that I have never seen "values" truthfully rendered throughout an entire print by pure photography, let alone such indispensable matters as emphasis, simplification, and decorative arrangement. But I have often seen approximately correct objective representations, always greatly inferior in point of mechanical accuracy to a reflection in a mirror.

This reminds me of Mr. Bland's remarks about reflections in water, and I should like to congratulate him on the careful consideration that he has evidently given to this difficult

and fascinating subject. His observations are mainly objective, and it is quite necessary that nature should be apprehended in this way as a preliminary to establishing the happy relations between objectivity and subjectivity essential to art.

I will, therefore, first deal with the matter from the objective standpoint, and here it seems that, in admitting that "there cannot be normal reflection without loss of sight," Mr. Bland justifies me in saying that "reflections are but a softened image, not a repetition of objects, and never have their strength of light or definition." Can they have their strength of shadow? I must ask to be excused from accepting the testimony of a straight print. I prefer Mr. Bland's very just observation that wind and current modify the surface, floating matter such as suspended mud "reflects light . . . and the dark object becomes lighter in the reflection." He objects to the statement that this is so always, but how can it be otherwise unless he can find water that is both absolutely pure and absolutely still? Unfortunately for the prospect of the search, if the water is stagnant it is not likely to be pure. There might be hope in a scientifically contrived experiment with distilled water, but nature does not trouble about such things.

As we are concerned with artistic rather than scientific observation, subjectivity cannot be left out of account. We see what we look for, and the interest of pictorial art depends on the artist's outlook.

He knows that in making his picture he must give importance to its planes, and therefore he sees water primarily as a plane with a surface on which the reflections are mere incidents of little aid to the structure of the work, and of far less significance than the plane itself. He is looking at water, not at reflections. To emphasize the reflections and to give them the strength of actual objects would not only be to falsify their relative character, but to destroy the consistency of the water. Hence, artistic selection must in any case modify the force of reflections, and show them as the softened image, not the repetition of objects, and without their strength of light, shadow, and definition.

It seems that I once stated that "black skirts in sunshine should never be darker than the shadows they cast." I was discussing a picture of full sunlight, and it must be obvious that the remark could only apply to such a work, for anyone can imagine a weak gleam causing an almost imperceptible shadow. Mr. Bland thinks the dictum only applies "when the observer is standing at the angle at which the reflected beam is at its greatest intensity," and goes on justly to say that "in such circumstances a 'black' crow would show patches of silver hue." I recognize the acuteness of his remarks, but there are a good many degrees between silver and black, and the angle of reflection need not be that of greatest intensity to produce a tone lighter than the shadow, which itself reflects some of the blackness of the object. If the question were one to be tested solely from the objective standpoint, I think ingenuity might arrange a black material of slight reflecting capacity so that its shadow would fall on a white surface and the observer would be placed at the angle of least reflection, and then perhaps the object and the shadow would, for the most part, be nearly of the same value.

Even then there would be some light reflected from the skirt, and one part of it would certainly be lighter than the shadow. But such a set of circumstances need not be emphasized

nor even accepted. There is the sentiment of sunlight to be reckoned with, the dominating power that the sun exercises over every scene in which its full influence is present. The artist who feels this influence in all its intensity knows that it must be the main theme of his picture, and in exercising his duty of selection he will not permit any accidental combination to weaken the paramount effect. What does it matter to him whether a skirt is made of silk or wool in comparison with the glory of the light? The dress must be brought under the prevailing influence, together with all the other objects represented, or left out altogether, for an incident of rebellion would disturb the harmony of the whole work. So the skirt should be lighter than its shadow, if only in obedience to the subjective perception, which gives expression to the spirit of the scene in preference to objective facts, which may be no more than insignificant accidents.

There is one other point. Mr. Bland objects to a criticism wherein I used the words "cheap contrasts" in reference to one of Mr. R. L. Cocks's pictures. I should be sorry to do Mr. Cocks an injustice, and I think that the criticism which Mr. Bland quotes (thereby incidentally showing his own fairness) proves my appreciation of the work and my regret at having to take exception to what seemed to me a defect, although I may have done so in "pungent" language. It is interesting to learn that as a result of Mr. Bland's industrious investigation a test has shown the forced highlights that struck me as incorrect to be a little darker than the light in the sky. But the fact remains that they are "aggressive by contrast with their shadowed surroundings," a combination that causes them to clash with the illumination above, disturbing the harmony of the work and detracting from the effect of the sky.

No doubt the lights did look strong in the actual scene, but their brilliance might well have been sacrificed to the welfare of the work as a whole.

I hold it not only to be permissible but the absolute duty of the artist to eliminate or modify any fact that interferes with the sentiment or spirit of the work.

Mr. Bland says: "If we go to nature and observe her well we shall see what Mr. Guest styles 'cheap contrasts.'" This, however, is not my idea of observing her well. If we observe her artistically we shall seek and find her harmonies rather than her contrasts. Our outlook will be subjective as well as objective, and will ignore or modify discordant accidents, while selecting and appreciating such useful and telling contrasts as help to give pictorial emphasis to the design and force to the poetry animating every unspoilt natural scene.—ANTONY GUEST in *The Amateur Photographer*.

Removing Sediment on Negatives.—The film of a negative sometimes becomes covered with a slimy deposit during development, which dries hard if not removed. If an acid fixing bath be employed, this will be prevented as a general rule, but a clearing bath will always remove the trouble. The following is a good formula for a clearing bath, which may be used after fixing:

Alum	4 oz.
Citric acid	2 oz.
Water to	1 pint

The negative should be washed slightly between fixing and immersion in this bath. Another much recommended solution is the following:

Chrome alum	½ oz.
Citric acid	1 oz.
Water to	1 pint

THOUGHTS ON PHOTOGRAPHY AND PAINTING

BY KENNETH ALEXANDER

POSSIBLY a word or two urging the necessity to keep ever-present in one's mind the desire to do fine work may not be amiss, as at times one is apt not to give much thought to the matter. A dozen photographs reach more people than the most elaborate and expensive form of advertising and are subject to a varying and merciless criticism. Rest assured that if you send out a picture with something lacking in it some one is going to find it out, and presto! away goes its advertising value, for if one person mentions it the rest see it immediately, and the picture is useless as a business getter.

Set your prices way up and then hope for greater in the future, and in setting the price consider the time you have spent to acquire the knowledge and experience. The public which buys your pictures and makes you a permanent business connection is looking to you all the time for finer and more dignified work. It may seem strange sometimes that people who display taste and spend money on other things that they surround themselves with in their homes, buy cheap (and, of course, inferior) work in photography. The explanation can only be that they consider them temporary and in time will invest in good work from a high-priced man, who from that time on will have a stronghold in that family simply from comparison with the former work; for invariably they will avoid the man from whom they bought in the first instance, for it will be impossible for them to associate his name with a quality output.

Good work means time, patience, and skill, and some more skill, also the employment of good assistants and the purchase of good equipment. These should be added to the cost of production.

Be absolutely sure that your prices are at a correct figure. The men in the front rank today arrived there by perseverance alone, by an insistent hammering of the value of their work in the ears of the public, and then when things began to come their way by keeping the standard as high as before and mercilessly criticising every print before sending it out.

One occasionally hears of a man who has established himself by an effect which almost amounts to bad photography, when criticised from the technical standpoint. I refer especially to the inclination to produce so-called impressionistic work; but undoubtedly the leading men would agree in saying that it is a bad and most precarious way to try and attract attention. Perhaps it may be underexposure and printing out of focus, or again over-exposure and a striving for tonal effects; but sane, far-thinking workers must insist it is incorrect, as it is unsuitable for the everyday customer, which brings to the front the fact that many of the men producing these effects choose their own subjects, as a rule, people with interesting faces, literary men, character subjects, and others which by themselves attract attention. I venture to predict that it would be a huge comedy to put a new-school man in the studio of a fashionable and successful professional photographer. I merely mention this to accentuate the artificiality which surrounds the absurd praise given sometimes to productions of the new school. As a rule, however, impressionistic work of merit usually has individuality,

which is a very good point in its favor. The works of Rembrandt, Franz Hals, Velasquez, etc., show that they did not put their subjects off in some dark corner and try to produce some queer effect, but placed them in a good round light that was brilliant and snappy and then went ahead with a clear thought of the subject's characteristics predominating their minds.

It is almost impossible to go wrong if you stick to the examples set by the Old Masters. Take, for instance, one of Rembrandt's strong points, his wonderful shadows; they are simply marvellous, deep, mellow, and tunely shadows; luminous shadows, *not mud*. If one could discover a way to get such results in a photograph he would have a name immediately. How is it to be done in photography, who knows? But when one considers the enormous artistic betterment that has already taken place one cannot help feeling that it will come in time. I was talking to a man, not long ago, who has produced some very fine etchings, a form of art in which it is probably possible to secure more depth than any other medium, and that was the point he thought most open to criticism in photography—the meaningless shadows.

The truth of the statement that you cannot go wrong or be in error to stick to the ideas of the Old Masters is emphasized if you will consider the work of the different leading photographers. One man's work is reminiscent of Gainsborough—the long, flowing lines of grace all suggesting him; another may suggest Rembrandt, perhaps being carefully thought-out arrangements, as were Rembrandt's. Then compare another who, possibly, is working from an entirely different standpoint. His work may suggest Sargent more than any other painter, as they may be spontaneous and have rugged light effects. Of course, though the thoughts are in touch with the painters, they necessarily do not slavishly copy them in technique, that would be stagnation for photography; any one with experience realizes that the means of expressing texture and color are entirely different from painting.

Of course there is great difficulty in knowing where to stop, and it takes a certain amount of skill or knowledge of art principles to know what to adopt and how to adopt it. Certain forms of composition which are remarkably interesting in a painting are impossible in photography. This is especially noticeable in group subjects. I have seen paintings which were fine and charming in the original manner in which they were grouped which would be the opposite extreme in photography. Photography by a clever photographer is supreme in the rendering of texture and facial expression, and if you will analyze the success of leading men you will find it due to ability in one or the other, and in a few very rare cases due to both.

WHY NOT MAKE COLOR PHOTOGRAPHS?

BY WILLIAM IRELAND STARR

THERE is nothing easier or simpler in all the branches of photography than the manipulation of the color process of the dioptichrome of the Dufray Company, for instance, despite the popular notions to the contrary.

It is, of course, to be expected that

the would-be colorist is equipped with some knowledge of the fundamental principles underlying the process, and also some knowledge of the relative value of diaphragms and the quality of the light in which he works. If he lack these simple rudiments of photographic information, my advice is to learn them as speedily as possible, for success in color work depends more upon exactness of exposure than nicety of manipulation, though no careless manipulator will even produce other than ordinary results.

Color plates are so wonderful, so startling, so beautiful, and, on the whole, so worth while, considering that no special equipment except a ray filter is required, that I cannot conceive of any excuse for amateurs generally not making them.

In the hope that I may induce others to try their hand I shall attempt to set forth how I have worked and made satisfactory color plates (with no other equipment than a little knowledge, a camera box, a lens, a screen, a clock, some plates and chemicals, and a room that was made dark at night).

My dark room is my bedroom, in which I am fortunate enough to have a stationary washstand with running water, but a bath room is excellent if you have a couple of boards to lay across the top of the tub for a table. My white light is a cap-mantle Welsbach of about 100 candle-power, and my dark-room lantern is a cigar box containing a 3-candle-power electric lamp, connected through a switch on top of the box by a flexible cord to a battery box containing seven Columbia dry cells. The cigar box has a hole cut in the front, and pasted over it with passepartout binding strips are two sheets of glass, between which is the necessary Virida or Excelsior papers. In my dark room I believe in having plenty of table surface, and so I employ two sewing tables, one for developing and the other for extra trays, chemicals, graduates, etc. This is only so solutions may be mixed up in advance in trays, in order that plates may be put through with the least delay, as it is not good to keep plates in or out of solutions longer than absolutely necessary. After the final washing the plate should be dried as quickly as possible.

All of these essentials being provided for, take your camera into the sunlight, remove the ground glass, extend the bellows full length, and with shutter closed and focusing cloth over head and just the back edge of camera, take a careful look for pin holes in the bellows, or white light that may penetrate anywhere.

If you do not find any you are in luck, but if you do, you must remedy the trouble before you can make color plates, for the little white light that only produces a slight veil in ordinary plates will ruin the color plates.

As it is next to impossible to make an ordinary room dark in the daytime, it is a good plan to anticipate your needs by loading your holders the night before you intend using them.

The keeping quality of the color plate is greatly below that of ordinary plates, particularly after they have once been opened and placed in the holders.

Experience has taught me that the best results cannot be expected of plates that have been in the holders a week, and one worker tells me that *four days* is about the limit.

Do not use an ordinary red light under any consideration, and the less light you have at any time prior to reversal the safer you will be.

There is no sense in taking chances; be on the safe side always. Owing to

the comparatively long exposures required you will be somewhat limited in your choice of pictures, moving objects for the present being barred, but almost any stationary subject will do, provided you avoid as much as possible the more violent contrasts of light and shade. In landscape work it is very difficult to get a blue sky and a properly timed foreground, so it is advisable to avoid the sky as much as possible.

I prefer the afternoon light to work by, or better yet, a bright, gray day, as usually the colors in a subject are sufficient to give the necessary contrast. Until you understand the workings of the plate and its limitations it is well to see that your subjects are as evenly and uniformly lighted as possible.

Now about exposure: This is the greatest difficulty and where experience counts more than anything else. There are no absolute rules that I can give, and it seems that every worker has a different standard to go by. I would, therefore, suggest the following textbook, but your judgment must be brought into play when the quality of light differs from the "midday bright summer sunlight" usually given as standard. I make all my pictures outdoors with diaphragm F. 16 (U. S., 16), and recommend users to adopt a similar standard and stick to it.

Whether you have had any experience or not, it is a good thing to provide yourself with a photometer; they are made for color plates now, and use it to check up by. The autumn and winter sunlight is very apt to fool you, as, while appearing bright, may be extremely yellow and non-actinic, requiring twice or three times the exposure you might think.

In outdoor work my exposures have run from 8 seconds to 2½ minutes with stop F. 16, while interiors have exceeded 3 hours with the same stop. I have found that the Dufay dioptichrome is considerably faster than the Lumière autochrome, which, of course, is a great advantage in many cases.

My method of developing is not one I would recommend to the novice, because instead of following the textbook rules strictly I depend upon my judgment in the appearance of the plate after it has been in the developer one minute, as to how long it should be carried. In this way, of course, one does not have to be so careful about the temperature of the developer except to keep it at 65° F. or below.

In autochrome work I use the old formula of pyro and ammonia, with dianol as a second developer, not because I believe it is any better than the metoquinone, but because I commenced with it and am more familiar with it. One should not mind the little extra trouble of handling one more solution, provided you can get results. I believe it is a good plan to stick to one developer, or one system of manipulation, in preference to changing about. It is the constant handling of one thing that brings perfection, and the nearer one can keep to the A, B, C the surer the results are going to be.

In the dioptichrome work I use the metol hydro developer of the formula, and otherwise having followed the book strictly, my results have been uniformly good. In arranging my developing table I place the tray of reversing solution at my left, with the lantern between it and the developing tray, the lantern facing away from me, with the light from it shining on the face of the clock.

In this way the plate is always in the dark, yet there is sufficient general light to give a sense of locality.

At about twenty seconds before the clock hand is upright on the dial, draw

the holder slide and get the plate in the developing tray, and as the hand reaches the upright position pour on the developer, being careful to cover the plate with one sweep. The developer period is so short that it is essential to get the plate completely covered with the developer immediately, otherwise you get streaks and "things." Rock the tray continuously for the required time, then rinse plate thoroughly, front and back, and place in reversing solution. Rock a few seconds, then turn off your battery switch (if you do not your batteries will be run out), and turn on your white light. If you use electric light or Welsbach, such as I have, take your tray of reversing solution with the plate in it, and hold it a couple of feet from the source of light and keep it there until reversal is complete.

One cause of failure in color plates is due to the fact that the plates are not subjected to sufficient white light before the second development, or that the second development is not prolonged sufficiently.

There is a point about this that requires a little study. In the first exposure you obtain a negative in which the true colors are masked, since they are the only ones that make an impression on the sensitive emulsion, and consequently are the only parts affected by the first developer; but by the action of the reversing solution, which is only a reducing agent, you dissolve away all of the metallic silver (blackened portions), so that these portions become transparent and the true colors appear.

The balance of the plate which appears white must now be masked or blackened so as to concentrate the transmitted light on the true colors, thus making them more brilliant.

This white portion not having been previously acted upon by the light, was not affected by the first developer, so to blacken it, it is necessary to expose it to white light and then develop it with the second developer. If you expose this white portion to too strong light you are apt to solarize it, so it is difficult to obtain a good deposit in second developer, in which case intensification will have to be resorted to. The same applies if the plate has not been exposed long enough. Prolong the second development in preference to shortening it, particularly if intensification is necessary with the following fixing. If you do not carry this well along, the plate will thin out when you fix it after intensification.

I prefer to overtime and intensify if necessary than to take any chances on the other side, but if you do overtime considerably you will have to see that your first development is somewhat shortened.

The appearance of the plate when out of the reversing solution is described in the failures and remedy column of the text-book. If your plate is overtimed, too much light has reached it and there is a general action of the first developer all over. As a consequence, when you put it in the reversing solution it is reversed all over, the resulting image is thin, and the true colors after the second development have a washed-out appearance. Unless this is too extreme, intensification will improve it wonderfully. If you over-develop you obtain very much the same effect, but generally worse, since the colors are usually all gone in the high lights, and there is no hope of bringing them back. With over-exposure, therefore, you must shorten your first development. In under-exposure your shadows and halftones lack color because the exposure has not been long enough to transmit the color rays to the sensitive film.

These parts, of course, are not developed by the first developer, and consequently are not acted upon by the reversing solution to any extent; therefore in the second development the true colors are partially masked and the resulting image is black and muddy. If you under-develop, the action of the first developer is not sufficient to allow perfect reversal and the resulting image is dull and lacks brilliancy, as though it had a screen over it. In some respects the appearance is similar to the under-exposure, only there will be detail throughout.

In general, use distilled water in making up solution and filter it before using. Reversing should be carried about 4 minutes, chrome alum bath 2 to 3 minutes (it is a good plan to use the alum, although not absolutely necessary); second development from 4 to 6 minutes, preferably 6 minutes. Intensification is a matter of taste. Of the artificial lights I find that next to electric arc a Welsbach is best for judging colors in the color plate, but the mantle should be highly incandescent, with no noticeable tinge of yellow or green. To obtain this quality of light, I procure the long, slender, fine-weave mantle and use the Lindsay type clear-glass chimney, which I am particular to keep scrupulously clean. Perhaps it is needless to add that everything else you handle should be kept in the same condition.

Color photography is no longer a dream, nor purely a laboratory experiment. It is a splendid reality, come to stay, and moreover, is gaining greater recognition daily as a gigantic field for art of the highest order and merit. Thousands are now making the most beautiful and artistic color plates, and if you are not among these workers you are missing one of the greatest charms that photography has yet offered.—*American Annual*, 1912.

CONVENTION NEWS

P. A. OF MISSOURI

THE officers of the Photographic Association of Missouri held a meeting to arrange for the (1912) Convention, which will be held in the Convention Hall of the "Planters Hotel," in St. Louis, September 2, 3, 4, and 5.

In selecting this as our meeting-place we have one of the most exquisite quarters in the country—the entire parlor floor and the two large halls; one for manufacturers, dealers, and display purposes, and the other for meeting-room, besides five or six private committee rooms being entirely reserved for the dates of our convention.

It is our desire to have an exhibition of foreign pictures as well as pictures from every association and State in the Union. We hope to make this convention of interest not only to Missouri photographers, but to all fellow-craftsmen.

The program which has been arranged is entirely different from previous years. We will have interesting illustrated lectures; and we also have featured a quartette, its members being Papa Cramer, Papa Hammer, Daddy Lively, and Harry Fell. A partial list of the selections to be rendered are: "Shall Auld Acquaintance be Forgot" and "Back in '61." An entertainment unparalleled at any previous convention has been arranged by the St. Louis Society of Photographers.

Any photographer wishing further information or program can have same by addressing LEE KUCKER, Secretary, Springfield, Mo., or F. C. DELPORTE, President, 2245*a* S. Grand Ave., St. Louis.

P. A. OF NEW JERSEY

New Jersey is the latest State to acquire a photographers' association. The organization of the Professional Photographers' Association of New Jersey was completed at a meeting held in Trenton on January 18. The officers are: President, John F. Sherman, Newark; Vice-presidents, Geo. Wonfer, Camden; C. N. Smith, Madison; Alan Logue, Trenton; Arthur Hull, Long Branch; Secretary, Chas. R. Thompson, E. Orange; Treasurer, J. W. Baldwin, Somerville; Advisory Committee, N. J. Shields, I. S. Vanderveer; National Delegate, W. Grant Channell, E. Orange; Alternate, Howard L. Keeler, Mt. Holly.

The morning meeting, with an attendance of thirty, was addressed by Pirie MacDonald, who outlined a plan for organization, following the section or unit plan made successful by the New York Society. Organization was then perfected by the election of the above officers.

In the afternoon a demonstration was given in the studio of Alan Logue with Dudley Hoyt, A. F. Bradley, and Ryland Phillips operating under the light. In addressing the members Mr. Hoyt emphasized the necessity of following the demonstrator from the making of the negative right through to the making of the finished print, which, if not done, renders the demonstration useless from an educational point of view.

In the evening a banquet was served, at which the executive officers of the National Association, then in session at Philadelphia, attended and made speeches urging the Society to help to make the National Convention at Philadelphia in July a success.

The Professional Photographers' Club of New York is giving a series of interesting and instructive lectures on the various branches of photography by leading experts in each line. The first lecture given a few nights ago was on "Animal Photography," by Mr. Sanborn, official photographer to the Bronx Zoological Park. The realistic pictures of animals thrown on the screen by lantern slide and motion picture film were much enjoyed by a large and enthusiastic gathering of photographers and their friends. The Club is to be congratulated in its intention of giving its members an idea of some of the many modern uses of the camera, instead of confining its meetings exclusively to studio portraiture.

STAIN REMOVERS

By Redevelopment. Bleach in potass. bichromate, 15 gr.; hydrochloric acid, 5 minims; potass. bromide, 5 gr.; water 1 oz. Wash and redevelop in clean developer.

A New Standard Light.—The "standard candle" is, perhaps, the least standard of the various illuminants which are used for optical and photographic testing, and a really permanently uniform light would be extremely welcome. A new standard light was described at a recent meeting of the Manchester section of the Institution of Electrical Engineers, by

Mr. W. A. Harwood, which seems to give us at last something tangible in the way of uniformity. It consists of a strip of metal, such as platinum, heated to incandescence, and the adjustment of it is exceedingly ingenious. Black fluorspar and water possess different light-absorbent powers, and as the heat of the incandescent platinum strip increases, the percentage of its radiation absorbed by the fluorspar increases, while that absorbed by the water decreases. There is, however, a particular temperature at which the percentage is equal in both cases, and at it the emitted light is perfectly uniform. This temperature is easily found by increasing the temperature of the platinum until the current generated in two thermopiles connected on opposite arms of a Wheatstone bridge through a galvanometer causes a zero deflection in the latter. Tests of the new standard have proved most satisfactory.

OPTICAL GLASS

BY DR. W. ROSENHAIN

(Continued from page 41)

WHAT is the origin of these striæ? Their formation in the liquid glass can be explained by observing their formation in any ordinary aqueous solution. When, for instance, water is poured into a glass or beaker which already contains some strong "hypo" solution, when the two liquids are first caused to mix, there is a very vigorous development of this striated appearance (*an experiment showing the production of such striæ was projected on the screen*). The two liquids possess a considerable amount of viscosity, and consequently when they are mixed this mixture occurs in a gradual manner—streams of the one liquid flow into and through the other, and for a considerable time retain their identity. The result is that the incompletely mixed liquid is made up of adjacent filaments of a dense and a less dense solution, possessing different refractive indices. Light passing through such a liquid is refracted at every bounding surface of two such streams or layers, and therefore—if the striæ are strongly developed—the liquid loses its transparency and is rendered merely translucent.

Now molten glass is a very complex liquid—ordinary plate glass, for instance, is a mixture of the silicates of lime and soda, with other substances, such as alumina, iron, etc., also in solution. The mixing of these various substances once they are molten is usually left largely to the operation of natural causes, such as the passage of gas bubbles and convection currents. But molten glass is a viscous liquid in which complete mixing is a slow process; the result is that when such glass is cast and rolled it is caught and allowed to solidify in that condition of imperfect mixture which occurs transitorily during the mixing of all liquids of different densities. In the case of molten glass, it should, however, be said that the source of these striæ, *i. e.*, of streams or filaments of liquid of different density, is to some extent to be sought in the fact that the molten glass, more or less according to its nature, gradually dissolves the material of which the melting pots are made. The process is rather like trying to

make a clear homogeneous solution in water contained in a vessel made of sugar or other soluble material. This fact probably accounts for the difficulty which was encountered in the early days of optical glass-making—the earlier efforts failed to produce really homogeneous glass. This difficulty was fully appreciated by Faraday, who endeavored to avoid it by melting his glass materials in platinum trays and stirring them with a platinum rake. This method was, of course, limited to the laboratory scale, and proved only moderately successful even there. It was the merit of Pierre Louis Guinand first to introduce the process of rendering molten glass homogeneous by stirring it in a special manner with a stirrer made of the same refractory fire-clay which is employed for the melting pots themselves. From what has been said above, it will be seen that this is by no means a perfect method, but it has yielded and is still yielding good results. Considerable skill and experience are, however, required in working this process, and it is physically very trying to those engaged in it, while the proportion of perfect optical glass which can be produced is exceedingly small, so that the cost of the final product is decidedly high as compared with all other varieties of glass.

Since striæ are a fatal defect in a finished lens, it becomes important to examine optical glass before it is taken into use. The grosser striæ can be detected by looking through the glass in a bright light, but in order to detect the minuter ones it is preferable to examine the glass in parallel light. For this purpose the smallest available source of light is placed at the principal focus of a large positive lens; the parallel beam thus produced is condensed by means of a second positive lens placed a foot or so away, while the eye of the observer is placed at the principal focus of the second lens, where an eye-piece may be used. If no glass at all or perfectly homogeneous glass only is placed in the path of the parallel beam between the two large positive lenses, the observer sees a uniformly-bright field, but any striæ present in a piece of glass thus placed are at once apparent as lines of either light or darkness.

Perhaps the most serious defect of glass, after lack of homogeneity, is due to the effects of internal strain. When glass cools it contracts, and this would of itself cause no difficulty, but unfortunately glass is a bad conductor of heat, and therefore when a large piece of glass cools the outside portions become colder than the inner portions, the latter only catching up much later. Consequently, while the inner portions are still hot and soft, the outer portions have formed a hard, solid shell; later, when the inner portions endeavor to contract in their turn, they find themselves attached to the hard outer shell which cannot yield to their inward pull; the result is a condition of internal strain, the inner parts being forcibly stretched while the outer portions are compressed by the inward pull of the inner parts. This state of affairs is set up to an extent sufficient to affect the refractive index, even when the rate of cooling is what would ordinarily be termed slow. The strain not only sets up double refraction, but the value of the refractive index varies from one part of the glass to another. Lenses must therefore be made out of glass which is either symmetrically strained or in which strain is entirely absent. Since the former condition is not easily fulfilled or tested, the entire absence of strain is demanded by opticians.

The presence of internal strain in glass is readily detected by means of an examination in polarized light.

Glass perfectly free from strain should show no lighting up of the dark field seen through crossed Nicol prisms, but this perfect state is never quite attained in practice.

It is one of the achievements of Schott and Abbé, at Jena, to have first devised the process of "fine annealing," which is now practised in a very perfect manner in England also, by which glass almost entirely free from the last traces of strain can be obtained. This consists in retarding the rate of cooling, between the temperatures of 400° C. and 200° C. to a rate so slow that the fall of temperature in twenty-four hours does not exceed 8° or 10°.

Next in importance to homogeneity and the effects of strain is the question of the color of the glass. Some of the best English and Bohemian table glass is perhaps equal to the best optical glass in this respect, but the optical requirements are very stringent. For photographic objectives, particularly, this question of color is of considerable importance, since in some photographic objectives the light is made to traverse a very considerable thickness of glass—in some cases amounting to $1\frac{3}{4}$ inches. Now the simpler varieties of optical glass can be and are readily produced in such purity that the most stringent requirements as to color are fully met. A plate of, say, hard crown or borosilicate crown as much as 12 inches long can be examined end-on and no perceptible color will be seen. This fine result is obtained solely by rigorous adhesion to the use of the purest materials, entirely free from all compounds of iron, and rigorous care throughout the manufacturing process to avoid even the slightest contamination by ferruginous or other coloring materials. On the other hand, certain other kinds of optical glass are never obtained free from visible color. Thus the very heavy flint glasses which contain from 40 per cent. of lead oxide upwards cannot be made colorless, since lead oxide, or rather silicate, is itself distinctly yellow in color even in the absence of all coloring impurities. Indeed—if we may accept the Drude theory of refraction and dispersion—this yellow color of lead oxide is essential to its intense power of refracting light. Other varieties of glass, again, are so extremely sensitive to the coloring effects of a whole range of minute impurities that it becomes practically impossible to keep them perfectly colorless. In these cases the best course is to be content with the "natural" slightly greenish tint of the glass; this is usually too slight to be noticeable, either visually or photographically in the finished lenses which consist of such glass in part only. On the other hand, both opticians and the public appear to have a decided prejudice against a glass having even the slightest greenish tint, and the glass-maker in some cases meets this prejudice by neutralizing the tint of the glass by the use of what is unhappily called a "decolorizer." These are substances added to the molten glass for the purpose of neutralizing the "natural" color. As a rule, they do this by introducing a small quantity of a coloring oxide which by itself would impart to the glass a reddish or pinkish tint more or less complementary to the "natural" green. When this is done the glass is given a neutral tint, but at the expense of an additional absorption of light. To a photographer this will appeal at once; it is like "compensating" for the use of a slightly greenish screen by the addition of a slightly reddish one. Fortunately the gradual progress of the technique of handling these glasses leads to the anticipation that the use of decolorizers will be entirely abandoned for optical glass even of the most sensitive kind in the near future.

The next requirement to be met by optical glass is one which is equally insisted upon for many other kinds of glass also, *viz.*, freedom from defects and enclosures of all kinds. These defects are of two general kinds, *viz.*, minute bubbles and opaque solid impurities which have not dissolved in the glass, or have fallen into it while molten. The latter are rarely, if ever, met with in optical glass as it reaches the market, but they occur with painful frequency in the glass as the manufacturer takes it from the melting-pot, and thereby cause the rejection of large quantities of otherwise perfect glass. Such defects arise either from the minute particles of foreign matter which is apt to find its way into the purest of commercial chemical raw materials, or from particles which the erosive action of the molten glass has detached from the fire-clay walls of the pot or from the stirrer.

Minute bubbles or "seed," as they are termed by glass-makers, are now a familiar feature in certain kinds of optical glass, although they would be regarded as a fatal defect in good plate glass or table-ware. The reason lies in the fact that when glass is made for plate glass or other ordinary purposes the glass-maker is usually able to adjust its chemical composition within wide limits in order to secure a glass whose nature, when molten, is such as to allow it to free itself readily and completely from the enclosed air-bells. With optical glass the reverse is the case; the chemical composition is rigidly governed within the narrowest possible limits by the optical requirements, and no adjustment can be made to secure a better melting glass. Further, in some cases, the glass itself appears to contain ingredients which at high temperatures gradually give off small quantities of gas in the form of minute bubbles, so that any endeavor to clear the glass in the usual manner by heating it to the highest available temperature merely results in the production of a fresh crop of small bubbles. This fact has been fully recognized, and one is now quite accustomed to see a number of fine bubbles in certain of the glasses of our best photographic lenses.

Another class of defect, although rarely found in optical glass or lenses as we see them in use, plays an important part in the manufacture by causing the rejecting of considerable portions of otherwise perfect glass. These are small opaque enclosures sometimes found in all kinds of glass and known as "stones." These generally consist of small particles of fire-clay which have not dissolved in the glass. They may possibly arise from contamination of the original mixture of raw materials, but more usually the source of such impurities in the glass lies in the pot or crucible in which the melting is carried out. As has already been mentioned, the molten glass to some extent attacks the fireclay material of this pot and partially dissolves it away, but at times larger particles become detached and then appear as "stones" in the finished glass. These stones usually have a well-marked vein or stria by way of a companion, so that in the very first sorting which the glass undergoes, all pieces which show such opaque enclosures are rigorously rejected, unless that portion of the glass which contains the defect can be chipped off.

Apart from the "stones" just described, which consist of matter essentially foreign to the glass itself, opaque bodies sometimes make their appearance in glass, which are not derived from any external source. In order to understand their nature, we must consider the general nature and constitution of glass. Molten glass is readily

understood to be a liquid solution in one or another of the various silicates, borates, and aluminates which are present in glass, but how does this hot liquid solution behave when the glass cools down and becomes the hard solid substance with which we are familiar? Careful observation has shown that glass does not possess a definite freezing-point when cooled in the ordinary way—there is no point at which glass can be said to melt or to solidify; as the glass cools it becomes increasingly viscous, but there is no sharp transition to a solid state such as we find in the freezing of a metal or of such substances as sulphur or naphthalene. In fact, we are forced to the conclusion that glass never really solidifies at all, but that it remains in the amorphous condition—really an extremely thick, viscous liquid, even down to the ordinary temperature or down to that of liquid air. That ordinary "solid" glass appears to be a hard and brittle substance in no way contradicts this view, since at low temperatures such substances as pitch and sealing-wax are also hard and brittle, and yet they are essntially fluids, although very viscous ones. Indeed, even such a fluid as ordinary water is distinctly hard and brittle; if water is struck a sharp blow, it breaks and fragments fly off—it is true that these fragments assume a spherical shape and appear as drops splashed up by the blow—but the actual phenomenon is exactly the same as the fracture of a piece of glass under a sharp blow; the fractured surface of the glass even shows ripples which are exactly analogous to the waves caused by a blow on water. Nor is the idea that glass is essentially a liquid based solely on theoretical reasoning or on analogy—for ordinary "solid" glass is capable of a certain amount of "flow." Glass rods and tubes supported near their ends, tend to sag permanently even under their own weight—it is well known that if glass tubing is to remain straight it must be kept on a continuous horizontal support. The lenses of large telescopes also are known to undergo gradual small changes of shape as the result of this flow if they are kept unsuitably supported.

(To be continued)

NEW BOOKS

The Spell of Holland. By BURTON E. STEVENSON. Illustrated from photographs by the author and map showing the author's line of travel. Price, $2.50. Boston: L. C. Page & Co.

In a list of notable books of 1911 compiled by Mayor Gaynor, of New York, a most discriminating reader, he endorses the *Spell of Holland* as the most interesting book of its kind, and we entirely agree with him. Holland, a particularly quaint and charming country, offers the observant and sympathetic traveller abundant matter for an entertaining book. Mr. Stevenson writes of the country and its people with a keen appreciation, and the reader who has not enjoyed the pleasure of a trip to Holland will get a very intimate knowledge of the country, its people and their ways. The illustrations from the author's photographs are well chosen, and add materially to the interest of the book. Its beautifully colored binding and generally handsome appearance make it a most attractive gift-book.

The Mecca; a new monthly magazine that should appeal strongly to photographers. The illustrations, of which there are from thirty to forty,

consist mostly of full protraits of prominent people by prominent photographers, and much can be learned from such a picture gallery. It is well printed, and is the sort of thing that should be found in every photographic reception room. The price is 25 cents a copy, or $2.50 per year. The address is Plymouth Building, Minneapolis, Minnesota.

Camera Work, Number 36. With this number *Camera Work* closes the ninth year of its existence, and in that time has made itself the leading art publication in this country. It must be seen and possessed to be appreciated. This ninth number is particularly interesting, being a Stieglitz number, and reproducing no less than sixteen of his compositions covering a period dating from 1892 to 1910. "The Steerage," made in 1907, a print palpating with life, shows that the hand that made it has not lost its cunning. The numbers announced for 1912 should be of unusual interest to the professional photographer. They will include the work of such masters of portraiture as Steichen, De Meyer, and Hill. The subscription price for the four numbers of 1912 is eight dollars, which includes registration and special packing. To the man who is used to the dollar magazine, eight dollars may seem a high price. *Camera Work* cannot be measured by other standards. The published price of number thirty-nine is five dollars per copy to non-subscribers. Harold Baker, a prominent English photographer recently remarked: "Use every opportunity of seeing good work. Study the work of great portrait painters, but do not neglect the photographers. Go to all the exhibitions of pictures and photographs within reach." Photographers, except those in the big cities, have few opportunities of seeing exhibitions. *Camera Work* offers just such an opportunity, and at a comparatively reasonable figure it brings an exhibition of masterpieces to your studio. We hold no brief for *Camera Work*, nor are we seeking subscriptions for it, but we do think that it would benefit every photographer who sees it.

THE DE MEYER EXHIBITION AT THE LITTLE GALLERY OF THE PHOTO-SECESSION

THE series of annual exhibitions of the Photo-secession was opened a few days before Christmas in the newly-decorated rooms of the Photo-secession gallery, Fifth Avenue, New York. Baron Ad. de Meyer, of London, being the exhibitor with thirty prints, of which his portrait studies maintain the first rank. The display contained pictures of the first order, and probably contained a large number of prints that judges would consider worthy of the highest awards.

One of the prints, "The Silver Cup," was bought and hung in the Albright Art Gallery, Buffalo, after the Photo-secession exhibition of 1910.

The pride of place was given the charming creation, "The Silver Skirt," a print of which was sold for $150.00 to a well-known New York collector. We presume that this is a portrait of the Baroness de Meyer.

Needless to say, Baron de Meyer is a well-known photographer, and there is no doubt that he was represented by his best in this exhibition. In one or two instances, however, works that

one would have wished present are absent. We are fortunate in being able to reproduce four masterpieces that were not exhibited. The portrait of the late King Edward VII is considered the best ever taken. The original is in the possession of the Royal Family.

Baron de Meyer's fame as a great portraitist, however, does not rest entirely on his work as a photographer of the personality of aristocracy. This is comparatively easy to do, as they are able to materially assist the photographer, knowing something of the art of posing. But there were hung in this exhibition the portraits of three old women of the slums of London, a series which caused de Meyer to be called a photographer of the slums. Here he shows himself as a true artist. Undoubtedly in the portraits these women have been lifted out of their environment—the darkness of the slums—and brought into contact again with the world of light and human society. No painter could have portrayed these poor old, wornout toilers with more feeling and truth than has de Meyer.

We wish that every photographer could see and study these portraits of de Meyer in the original. Our illustrations unfortunately do not reproduce all their beautiful qualities.

LET US BE FAIR

In a recent issue of one of our contemporaries, under the caption "An Official Photographer's Studio," there appears an interesting account of William H. Rau and his new studio. We wish to take exception, however, to a statement which occurs in the article. It reads: "Mr. Rau was selected as the photographer for a great expedition through Egypt, Palestine, Arabia, and the then almost unknown wilds of Arabia Petræa. It was probably the very first important expedition to trust to the new and wonderful dry plates, and Rau scored a big success for dry plates as well as for himself."

This is unfortunately one of those half truths that is worse than a direct misstatement. It fails to give proper credit to the man who planned, financed, and personally headed the exhibition in question, and by implication gives all the credit to one member of the party. The following facts are given in common justice to the late Edward L. Wilson:

In 1881 Edward L. Wilson planned, financed, and conducted a very notable expedition to Egypt, Palestine, Arabia, and Arabria Petræa, his object being to obtain photographs of all the places in the Holy Land mentioned in the Bible. Among his assistants he took with him Wm. H. Rau, then a young but capable photographer, and who did very good work throughout the trip. The expedition was in every way, except financially, a great success. Incidentally it may be mentioned that Mr. Wilson risked the chance of obtaining good negatives, on the dry plate, then being introduced, the plates being made, after a great deal of experimenting, by John Carbutt, of Philadelphia. Over three thousand good negatives were brought back.

As Mr. H. Snowden Ward was a schoolboy at the time of the expedition, he must have been unaware of its make-up, and we are sure that he would have been glad to have made this correction had he lived.

The above statement is correct and the facts are as stated.

MRS. EDWARD L. WILSON.

TRADE NOTES

THE Eastman School of Professional Photography held a very successful term of three whole-day sessions at the Murray Hill Lyceum, New York, on January 16, 17, and 18. The attendance was larger than at any previous New York School, and averaged about 350 photographers per session. Under the able instruction of such men as F. F. Hazlett, Milton Waide, and Don C. Scott, under the general direction of Harry Fell, a very complete course of professional photography was gone through in a thoroughly business-like manner. It would be well if some of our convention officers would take a lesson on making the best use of time from a three-day Eastman school course. Photographers who have not yet attended one of these schools have little idea of how much they are missing. The schedule of the school for the next few weeks is Detroit, Mich., February 13, 14, 15; Columbus, O., February 20, 21, 22; Indianapolis, Ind., February 27, 28, 29; Minneapolis, Minn., March 5, 6, 7; Chicago, Ill., March 13, 14, 15; Kansas City, Mo., March 19, 20, 21; and St. Louis, Mo., March 26, 27, 28.

VOIGHTLÄNDER & SOHN OPTICAL WORKS, 240 E. Ontario Street, Chicago, desire to procure for advertising purposes, good negatives made with any of the Voigtländer lenses, more especially the Helias Collinear series II and III, and the Dynar. They desire work from both the amateur and professional. From the latter they particularly desire portrait work. Unmounted prints should be submitted. In the case of pictures containing a figure being purchased, the maker will have to supply the written permission to reproduce each person photographed. A detailed circular can be had by writing the Company at the above address.

THE ANSCO COMPANY, of Binghamton, N. Y., has just issued two interesting booklets. One a preachment entitled, *Snap Shots and Education*, by Elbert Hubbard, and which is largely reprinted in this issue of the magazine, and the other a catalogue of the full Ansco line of hand cameras, film, papers, and chemicals. They are both interesting books, and can be obtained for the asking. By the way, we notice that Mr. C. B. Stanbury, second vice-president of the Ansco Company, recently sailed for London, where it is expected he will make arrangements for the opening up and enlarging of the English and Continental markets for Ansco products.

SOME new and strange names have lately appeared in the photographic advertising field, "Tozol" being one of the new ones. Appearing under the Eastman "Tested Chemical" seal, it comes well recommended. Tozol is a simplified developing agent that the professional photographer will find very useful on account of its convenience and economy. It is a vigorous developer especially suited to the various brands of Artura and Azo, though it can readily be adapted to produce splendid prints on Velox and bromide papers. A stock solution, very simply compounded from the formula on the bottle and tried on Artura Iris, printing from a varied assortment of negatives, produced very satisfactory prints, rich in tone and gradation. Tozol is sold in 1-ounce bottles at 20 cents; ¼-pound bottle, 70 cents; ½-pound bottle, $1.30; and 1-pound bottle, $2.50. Your dealer has it.

"Roylon" is another new developer put out by the Eastman Kodak Co. for developing papers and is especially recommended to those individuals whose skin idiosyncrasies prevent them from using some developing agents that have an irritating effect. In Roylon it is expected that this objection is to a large extent overcome. We have suffered from the aforesaid irritation and know what a boon a really non-irritating developing agent will be to many workers. Roylon with hydrochinon makes a vigorous developer, producing prints with plenty of brilliancy and a full range of tones. It is a "Tested Chemical," and you are assured of its strength and action.

Photography Indoors is the title of an attractively gotten-up book just published by the Bausch & Lomb Optical Co. Printed on a dull-finished India-tint paper in duotone ink, with embossed cover, it reflects credit on the Bausch & Lomb advertising department. Of especial interest to amateur photographers, who are shown how to obtain good results with a camera and an anastigmat in the home. Each illustration, of which there are many, is accompanied by a diagram showing just how the lighting was made. A copy of the book may be obtained from the Bausch & Lomb Optical Co. if you write mentioning this magazine.

Some of the most attractive advertising of 1911 was that put out by the C. P. Goerz Optical Co., and the indications for 1912 are that there will be more of it, and it promises to be even more interesting. The house of Goerz has made itself famous by the steady introduction of new and improved lens and camera specialties. The latest addition to the Goerz family is the Goerz Coat-Pocket Tenax, a beautiful little instrument for making pictures 2½ inches by 3½ inches. It is the acme of completeness, compactness, accuracy, and elegance, and an invaluable companion on a pleasure trip.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor
MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors.

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK
Entered at New York Post-office as Second-class Matter

Yearly subscription in advance, United States and Mexico, $3.00; Canada, $3.25; Foreign Countries, $3.50. Single copies, 25 cents. Subscriptions begin with current issue unless otherwise ordered. Original manuscripts on photographic subjects are solicited, and, if accepted, will be paid for on publication.

EDITORS' TABLE

Editor of WILSON'S PHOTOGRAPHIC MAGAZINE.
Dear Sir:

In an editorial in the December number of your magazine you suggested the awarding of medals by the National Association in recognition of the services rendered for the advancement of photography, somewhat on the lines of the Progress Medal of the Royal Photographic Society of Great Britain. You even suggested names of men who in your estimation deserving recognition.

Looking over the list of names the National Association has honored, I find Elbert Hubbard, and the latest addition, Governor Eberhart, of Minnesota. Now I want to ask every sane, common-sense photographer why confer on these men the highest honor the society has to offer? Is it because of the long hair and the flowing necktie of the one, or the being a governor of the other?

I have in mind a man who in a measure is responsible for the tremendous progress photography has made in our country, and who is spending hundreds of thousands of dollars every year in demonstrating, lecturing, and educating the professional photographers all over the country, giving them the most up-to-date, practical, and helpful education, from dressing the show-case to delivering finished print, completely covering every process now in general use, and without any string attached to it in any way. Let me tell you that in this respect he has succeeded by far our conventions, and yet our photographic societies have done nothing in recognition of this most valuable service.

Some one might say that it is a matter of business with him. Don't we get the benefit of it? Can you show another example like it anywhere?

While I hold no brief for George Eastman, the photographic societies are in duty bound to acknowledge the value of this man to our profession, and to honor him for his services to the public. Yet following our usual carelessness and indifference such honor is likely to be deferred until too late.

Yours very truly,
S. H. LIFSHEY.

Brooklyn, January, 1912.

THE picture of "Gadshill," by Mrs. Catherine Weed Ward, which we reproduce in this issue of the magazine, has a double interest at this time. It will be recalled that the late H. Snowden Ward was deeply interested in the Dickens Fellowship, on behalf of which he was visiting this country at the time of his death. The last letter we had from him was a suggestion that we reproduce the picture of Gadshill—for many years the home of Charles Dickens, and where he died—in our February number, in connection with the centenary of his birth, which will be celebrated on February 7. Dickens was preëminently a photographer of the highest order; his observation covered his fellow-man with the speed, accuracy and minuteness of the finest anastigmat, and his pen has recorded the highlights and shadows of human nature as unerringly as it was sympathetic.

We learn that status of the photographic editors in regard to membership in the Photographers' Association of America has undergone another change, and they are no longer to be allowed to become active members of the Association. This is as it should be. Photographic editors are not professional photographers, and cannot properly belong to an organization that as members they must be loyal to and as editors, criticize. The right to speak from the floor, which active and associate membership carries, can be much more effectively exercised through the editorial columns. The associate membership is still open to the editors, but they are put to a disadvantage by accepting. We are firm believers in the policy of "No entangling alliances," and prefer to attend conventions on invitation, and be free to pass unbiassed opinions on their proceedings.

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ARTURA DIVISION,
EASTMAN KODAK COMPANY
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WILSON'S PHOTOGRAPHIC MAGAZINE

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OUR PICTURES:

Frontispiece and Two Engraved Supplements from Drawings by Carl Bohnen. Engraved Supplements from Photographs by Franz Rompel, C. Madlung, and E. E. Seavey

EDWARD L. WILSON
122 E. 25TH ST : NEW YORK

ENTERED AT N Y POST OFFICE AS SECOND CLASS MATTER

Money and Reputation

are acquired only by the photographer who pleases his customer.

The customer is the judge — not of brand of plate or paper, but of RESULTS. He is either pleased or disappointed. A photographer travelled to Binghamton and back to his town on Xmas, to get what?

Contrast Cyko Paper

He had made a panoram group picture. If satisfactory several hundred prints were required at once. His proof print was rejected — his negative was weak and thin. His dealer, a Trust agent, is honest. "Try CYKO," he advised him, "nothing else will do. I keep a little to use when up against it."

The photographer won out, but had to travel a hundred miles, because his town was "Trust Bound."

Ansco Company
Binghamton, N. Y.

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Courtesy of
"The Mecca"

F. B. KELLOGG

Drawn from life by CARL BOHNEN, St. Paul

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. XLIX MARCH, 1912 No. 663

EASTER BUSINESS

SECOND only to the big Christmas rush of business comes the Easter demand for portraits. It also comes next in point of time. If Easter brings with it a lesser volume of business than Christmas, it brings a greater opportunity for better work, and here the photographer has the chance to add to his reputation and do some good advertising on behalf of Christmases and Easters to come.

The bulk of the Christmas sittings coming as they do in the darkest and most dreary months of the year, with the sitters in their sombre winter garments, it is simply a case of making the best of the conditions and the material at hand.

The Easter business, however, is very different. The severity and the hardships of the winter are past, the days have taken on a new cheerfulness, and the old clothes are being changed for new and brighter outfits. Suggestion only is needed to bring sitters to the studio. Mothers and children that have been house-bound are now out and abroad, and the photographer who has not his showcase filled with a choice assortment of children's pictures is losing a golden opportunity. The spring hat and clothes are easily caught by the right inducement. This can be done by a judicious use of advertising space in your local paper. Strong but dignified reminders that now is the time to have those Easter photographs taken.

Avoid details as to styles and prices in these announcements. Just press home the desirability of good photographs right now, and your ability to make them. Study the street-car advertisements of the big national advertisers for examples of making strong points in as few words as possible. Never urge cheapness to secure business. Combine quality with moderate prices. Run a small advertisement every day and change the subject matter frequently, but retain the same style of type and setting for your name and address. It is even worth while going to the expense of having this specially drawn and electrotyped. Your printer can help you with this.

Create an individuality for your advertising that will make it recognizable at a glance. For the last eighteen months one of the leading New York papers has been carrying on the back cover of the illustrated section of its Sunday edition the small advertisement of a prominent New York photographer. His name and address (white type on a black ground) never varies in style or size, and can be picked out from a varied assortment of advertisements instantly. Followed up by a new argument each week, it is strong and compelling advertising—and we know that it pays.

A PROPHECY

BY E. FREY

WHAT would be your private opinion, publicly expressed, if a man were to tell you point-blank that within a few years you would be selling your portrait photos by *the foot*, instead of, as now, by the piece or dozen? Very likely your first impression would be that that man was an ideal subject for the very careful investigation of a lunacy commission. I should like very much, with your kind permission, to appoint you a member of that commission, and only ask you to weigh the evidence carefully and to render your verdict in accordance.

In view of the beautiful, yes, sometimes exquisite, examples of modern photography, it may sound like a paradox or defamation to venture the assertion that photography is *intrinsically* the same today as it was during the days of Daguerre and Nièpce. How then can we reconcile this statement with the evidence of our senses, which proves to us every minute in the day that our work is technically and artistically far in advance of that of the early workers?

Let us see, then, how this proposition would work out, and whether the statement contained in the opening sentence of this article is really as fantastic and improbable as may appear at first thought.

In the first place we must bear in mind that the human family is continually on the lookout for something new, and especially so if that "something" offers something really meritorious; and at the same time we also know that that which is new and beautiful today is old and commonplace tomorrow.

We are today employing the same prime and primary forces, agents, and means to produce our record on the plate as were used during the early days, *viz.*, light, lens, plate, and chemicals, and the question as to the comparative *quality* of these agents should not, for the time being, enter here. The results produced by these means are *fundamentally* the same now as then; that is to say, an image produced on the sensitized plate of an object or subject as it appeared to the eye and lens up to and including the time of exposure. This image or record, owing to the inherent limitations of the process, cannot possibly show the object in more than one phase or aspect at a time, and must of necessity be photographed while at absolute rest or comparatively so.

The negative, then, if converted into positives or prints (speaking here, of course, of modern methods), will naturally yield copies characteristic

to its quality, and these copies, no matter what quantity you make, will be practically alike in as far as general appearance is concerned, and they will all have the same so-called facial expression in the case of a portrait. The term "expression" is, I think, to a great extent at least, a misnomer, and the same may with equal right be said of paintings. Expression, as I conceive it, in its abstract sense, is a psychological manifestation or process, and is composed of a ***multitude*** of separate and distinct displays of emotion, which, as we see them playing hide-and-seek in the human countenance, called by the above name, and this multitude of everchanging moods cannot possibly be reproduced in just one single picture; at least they cannot be produced in anything like near their totality, so as to enable you to get a glimpse of the subject's real inner self and soul.

I believe, therefore, as you have very likely already guessed, that the logical solution of the problem will be the motion picture, not only as applied to outdoor work and special occasions, but more specifically to your studio portrait work.

If you will kindly follow me a little farther I will attempt to show *how* I imagine this proposition to materialize eventually, and *why* I think it will be the natural sequel to present methods. I do not mean to say that the present style photo will become obsolete. There are a great many reasons why it will always continue to be the picture for the masses. The moving-picture industry has, as you well know, made gigantic strides during the last ten years, and has given pleasure to millions of people; at the same time, it is implanting every day—perhaps unconsciously—in their minds the germ of a desire to have and own just such pictures of themselves, their children, or friends. I had occasion to convince myself a short while ago that this desire is only dormant, and that it rests with the opticians, manufacturers, and photographers to wake it to its full consciousness.

I believe, therefore, judging by these indications, that the moving-picture camera will be part of the regular equipment of the studio of the near future; in fact some of our photographic colleges have already added that branch to their curriculum—but this, I presume, more with reference to dramatic lines and outdoor work than pure portrait photography.

As to the use of the moving-picture camera in the studio, I do not think that this would offer any particular or insurmountable obstacles. The lens and camera question will necessarily have to be worked out by the optician anyway. As to films, however, the situation appears to me as in this way: The films as now used are undoubtedly an ideal medium for the reception of the negative impression or record. The same cannot be said, with the same certainty, when it is used in the machine or projecting apparatus. Owing to their high degree of inflammability, these positive or transparency films would prove anything but a desirable medium when used in the private home, where safeguards against fire are not as complete as in a well-appointed picture theatre. It would, therefore, seem necessary to have recourse to some other substance as a vehicle to carry the positive, and this might be accomplished by printing on special tough paper or other suitable substance, and then project the picture by reflection, as is done now in some certain types of steropticons. This would naturally entail the loss of detail and crispness

to some extent; but it would, at any rate, eliminate the danger feature until a more safe film has been evolved.

In regard to the number of feet required for the average portrait picture, it seems that from twenty-five to one hundred should be sufficient, and the printing of such lengths is no more impossible than the developing of the negative and positive reels of one thousand feet.

Although this article is written with special reference to portrait work, it is safe to assume that the owner of a motion-picture camera is fully aware of the fact that he will find a thousand and one new uses for it outside the studio, and thus materially widen his field.

Let's see now about "how about" the Dear Public, who is supposed to be paying for all this. I believe that the same class of people who are financially able and willing to buy phonographs or similar talking-machines, ranging in price from ten or fifteen dollars to two hundred and fifty dollars, are also able and willing to buy a motion-picture projecting apparatus costing the same or even more; and the *pater familias* will vary his program somewhat by simply asking his eldest daughter that, instead of serving him a few slices of the freshest "canned music," he be shown the latest picture of the kiddies and their dog.

Believing a five-minute demonstration to be more profitable and beneficial than a two-hour sermon, and wishing to show the possibilities and adaptability of the motion-picture camera to portrait work, and also wishing to show the effect such pictures produce on the mind and heart of the spectator, I would like to give you the following incident:

A few months ago I visited one of our local picture shows and saw there a picture which I considered more beautiful and wonderful than any painting I had ever seen in European art galleries. The picture was nothing more than that of a fine, healthy-looking baby boy, apparently six or eight months old. To avoid any misconception, I must state here that the baby was not one of the "actors" in a photo play, and that the picture had no direct connection with the film following it; the film was shown separate and distinct from any play. The pose, if I may use that word, was one that you would be liable to use in your everyday work. The accessories were those commonly found in nearly all studios: table or settee, a large cushion, and plain ground. The child was photographed sitting, in "Adam's costume," on the cushion on the table or settee.

The first stage of the picture shows him full-face toward the spectator, with a rather indifferent expression, as if it were entirely immaterial to him whether school kept or not, or stocks and bonds went up or down. Next, someone—outside the field of the lens—had evidently drawn his attention; his expression changes from indifference to intense interest; very gradually a faint indication of a smile hovers around his pretty mouth and eyes; then the smile develops more fully; then enters the grinning stage, and from that into a paroxysm of hilarity. This finally subsides, and his entire attention is now centered on the absorbing occupation of examining the cushion, and incidentally taking inventory of his toes, trying to find some new uses for them. His attention is then suddenly attracted by a little bug, apparently about the size of a June bug, which had either accidentally strayed to that table or had been intentionally placed there beforehand. This seems to open an entirely new world to him, and his curiosity and

sense of investigation are aroused. The bug proceeds from the table to the child's naked legs, and from there up to his arms. There is no indication of alarm or fear in his face, only innocent curiosity. In order to examine that big animal more minutely, he proceeds to pick him off very gingerly. His bugship, however, had no particular hankering after the baby's demonstration of affection or curiosity, and flies off to more congenial surroundings, the child's eyes following the insect in its flight. The little fellow's expression and attitude of mingled surprise and disappointment as the bug leaves his arm was a great study in itself, and evidently caused the operator or some bystanders to laugh, because, as the baby again turns his head nearly full to the spectator, it *looks* the question, "Now what are you all laughing about, anyway?"

This picture ran, approximately, for only two or three minutes; yet in that short space of time there were depicted nearly all the emotions a baby nature seems capable of. Is it any wonder, then, that nearly everybody in the house was enraptured, and that many of the ladies remained, just to see that picture a second time? (I know this to be a fact, because I was one of the "stay-overs" myself.)

Now, what is it that takes such irresistible and compelling hold? It was not because it was a fine picture of an exceptionally beautiful little specimen of humanity; not because anybody knew the baby or his parents; not because it was a motion picture; but because it was a *living* picture, pulsating with that life and spirit that no single or separate conventional photograph could ever hope to equal, much less surpass, and this is why I said it appealed to me more than any painting in European galleries. We are, in a case like this, not confronted with such considerations as drawing, perspective, composition, coloring, or technique—and we don't try to analyze them—we only see nature, unadulterated and unadorned, and are not filled with reverence for art, but with adoration for the Great Artist.

Since this article is liable to be regarded as a rather suppositious one anyway, we may as well do just a little more supposing: Let us suppose, then, that a mother had a film-reel of her child, a picture as good, perhaps, or much less so, than the one above. Suppose, further, that the child should happen to die. Now, don't you suppose also, that it would take a pretty good slice of John D's money to induce that woman to part with that reel? I doubt very much that she would—and there are thousands like her. Yet, I do not claim or fear that our present style of photograph will ever be a thing of the past—that assumption would be ridiculous; but I do think that the possibilities of the motion-picture camera are as yet undreamed of.

Now, if these lines do no more than cause some of you workers to *think* along these lines, both the writer and the editor will feel that the time and space have not been altogether wasted, and, since you were appointed a member of that lunacy commission, I now await your verdict as to whether this is a prophesy, a piece of absurdity, or merely an idle dream.

Small, sharply defined opaque spots on a negative have been caused by changing plates in the dark-room when allowing water to run from the faucet. The surface of plate became spattered either with clear water or by impurities from the bottom of the sink and was afterward dried while awaiting development. This causes spots varying in size, character, and intensity.

DEFECTS IN NEGATIVES

A PERFECT negative presupposes a perfect plate, correct exposure, and correct development stopped at exactly the right time. It is almost unnecessary to say that all these conditions are rarely satisfied, and consequently most negatives fall more or less short of perfection. The defects may be broadly grouped under two heads, namely, those due to imperfections existing in the film before exposure, and those due to defects or errors in the way in which the plate has been treated. It will be more convenient to deal with the latter, and larger, group first, but there is really no hard and fast division between them.

The negative is thin, or in other words, while showing good gradation, and sufficient relative contrast between the different parts, is as a whole lacking in opacity or printing strength, and gives prints that are deficient in vigor and contrasts. The plate has been removed from the developer too soon, and the remedy is to intensify the image. Sometimes the want of opacity is due to the fact that the developer was too cold.

The negative is too dense or opaque and consequently, although showing good contrasts and gradations, takes a long time to print, especially on dull days. The developer has been too energetic, or development has been continued too long; the remedy is to reduce the image.

The image is "flat," or shows comparatively little contrast between the highest lights and the deepest shadows. This may, of course, be due to the absence of contrasts in the subject photographed; it is commonly due to over-exposure; it may be caused by using a developer containing too little reducer, or restrainer, or both, and too much alkali; sometimes it arises from a defect in the quality of the emulsion, or from the fact that the plate has been coated with an abnormally thin film of emulsion.

The image is "hard," or shows excessive contrasts between lights and shadows, and is defective in the range of its half-tones. This is probably due to under-exposure, but may have been aggravated by the use of a developer containing too much bromide or too little alkali. Local reduction may partially remedy the defect.

Fog. A more or less marked gray deposit of reduced silver extends over the whole surface of the image. It may be due to over-exposure, in which case the edges of the plate that have been protected by the rebate of the dark slide usually remain clear. It may also be caused by using a developer containing too much alkali, or too little restrainer, or both, or by the plate having been exposed to actinic light outside the camera, including the light from the dark-room lamp if the glass or colored fabric used as the screening material is not efficient. In any of these cases the defect would be observable up to the extreme edges of the film.

The character of the dark-room light should be tested by exposing one-half of a plate to it at a distance of say nine or twelve inches for five or ten minutes, the other half of the plate being protected by some opaque substance. The best plan is to put the plate into a dark slide and draw out the shutter half-way. After exposure the plate is treated with a developer in the usual manner, and it can then be seen whether or no the light has exerted any action on the plate.

Slight general fog may, as a rule, be

neglected, but if the amount of fog is at all considerable the plate should be treated with a reducer, and afterward the image can, if necessary, be intensified.

Green Fog. The surface of the film shows a peculiar brilliant green or yellowish-green lustrous appearance, generally in patches, when examined by reflected light, but is more or less distinctly pink when the plate is looked through. This effect is rarely observed except when pyro-ammonia has been used as the developer, and it most frequently occurs with old plates, especially if development has been long continued or has been forced by the addition of comparatively large quantities of ammonia.

If the green fog is only slight it does not affect the prints made from the negative, but in bad cases the prints have a patchy appearance and are less deeply printed at those points where the green fog is worst.

Two methods are available for the removal of green fog:

In one of these the plate, after being fixed and washed, is placed in a hypo solution of half the strength of the ordinary fixing bath, and to this hypo solution is added a very small quantity of a solution of potassium ferricyanide, and the mixture is allowed to act on the plate for some time, the dish being rocked occasionally. The green fog will gradually disappear, and some more of the ferricyanide may be added, if necessary, to secure this end; but it is important to keep the proportion of ferricyanide as low as possible, otherwise the image itself will be reduced. For this reason, if it is seen or suspected that the green fog is likely to be bad, development should be carried a little farther than usual in order to allow for the slight reduction that accompanies the removal of the green fog.

The other plan is to immerse the plate in a dilute solution of ferric chloride (perchloride of iron) until the green fog has been completely bleached, then wash, first in a dilute solution of oxalic acid and afterward in water, and finally treat with a developer, preferably ferrous oxalate. The green fog is converted into a very fine gray deposit which is almost invisible and has no appreciable effect on the printing qualities of the negative.

Black spots may be due to particles of dirt that have been allowed to lodge on the film during one or other of the operations, or during drying. They may also be due to particles in the emulsion, and in the latter case are generally round and sharply defined.

Black marks of the nature of irregular streaks, looking, so to speak, like black scratches, are generally due to mechanical abrasion of the film. Pressure produces a developable image similar to that produced by the action of light.

Transparent bands, or bands showing less opacity than the rest of the image, are sometimes caused by exhalations from the material forming the hinges of the dark slides.

Transparent spots if small ("pinholes"), are generally due to the presence of particles of dust on the surface of the plate when it was exposed. Prevention lies, of course, in carefully dusting the plate and the dark slide with a soft, clean, dry camel's hair brush, before putting the former into the latter. If the spots are larger and circular, they are due either to the formation of air bubbles on the surface of the plate during development, or to the presence in the film of insensitive particles.

Uneven opacity or density, varying gradually from one end or side of the plate to the opposite end or side, is due to uneven coating of the plate.

If there is a distinctly defined patch, less opaque than the rest, the plate was not properly covered by the developing solution.

Stains. A uniform stain, of a yellowish or brown color, is produced when the pyro developer contains too small a proportion of sulphite or is allowed to act for a very long time. Such a stain is rarely observed with the other developers mentioned above. The pyro stain can be more or less completely removed by immersing the plate for some time, with repeated rocking, in the alum solution given above, 1 dram of sulphuric acid being added to every 10 ounces. The plate must afterward be well washed in soft water. Similar stains in patches may be caused by using dirty dishes or a developer that has become turbid by being frequently used.

Deep yellow-orange or brown stains, appearing gradually in patches or all over the negative, some time after it has been fixed and washed and dried, are due either to imperfect fixing or to incomplete washing after fixing. There is no practicable remedy.

Halation. When the subject photographed includes some part much more brightly lighted than the rest, such as a window in an anterior subject, the details of the bright part are not only lost, but the image of it seems to spread in all directions, obliterating the details of the surrounding portions. The effect is especially noticeable when the subject includes dark parts which necessitate a somewhat long exposure. A window at the end of a long, dimly lighted interior, or dark trees against a bright sky, are cases in point. The effect is really due to the fact that the sensitive film is not perfectly opaque, and some of the incident light passes through the film and is reflected from the back surface of the glass on to the under side of the film, producing a blurred image superposed, as it were, on the normal image formed at the surface of the film by the action of the direct light. The effect is known as "halation." It is prevented by having a perfectly opaque film, which is a condition difficult to realize in practice, and which, moreover, introduces certain other disadvantages. It is also prevented by coating the back of the plate with some substance that will absorb the rays that have passed through the film, and so prevent their being reflected back against the under side of the film. The substance used must either be opaque or must have a deep orange, brown or red color, and it must have the same refractive index as the glass, otherwise the reflection will not be prevented. For practical convenience it must also be easily applied and easily removed. Many substances have been recommended but nothing is so good as caramel, prepared by the action of heat on sugar. In order to get the mixture to dry completely after it has been applied, a somewhat troublesome process of purification is necessary, but caramel specially prepared for the purpose can now be obtained from dealers in photographic materials. The caramel (which is a solid substance) is dissolved in just enough water to make a thick syrup, which is carefully applied to the back of the plates in a thin layer by means of a flat brush.

If the caramel does not dry properly the solution may be thoroughly mixed with about one quarter (or more) of its weight of very finely powdered burnt sienna or burnt umber, "ground in water."

After being coated, the plates require some time to dry, and must, of course, be carefully protected from light. If the dark-room is thoroughly dark, the plates may be put up to

dry in the same manner as negatives, but if the dark-room is not suitable, some sort of drying box must be used.

After exposure and before development the backing is removed with a damp sponge; if caramel only is used in a form completely soluble in water, it need not be removed unless a developer is being used that is to be applied to several plates in succession.

MY IMPRESSIONS OF "KINEMACOLOR"

BY HENRY JOY

[THE latest and in some respects the most wonderful development of color photography is the Kinemacolor moving pictures of the coronation of George V in London and of the Durbar in India, two particularly brilliant displays of life and color. Only those who have seen these Kinemacolor pictures can realize the enormous strides that this branch of photography has made in the last two years. Two performances daily in the largest theatres of New York and London to delighted audiences indicate that the moving picture has taken its place in the front rank of popular entertainment. The following interesting description of the process is taken from the *Penrose's Pictorial Annual*.—EDS. W. P. M.]

That the world is full of wonderful things is truism, and we realize it the more when we consider the latest achievements in chemical, optical, mechanical, and electrical science; and especially the recent advances in natural color photography.

The latest invention, resulting from a happy combination of these mysterious forces, has now arrived at the commercial stage, and is being publicly exhibited at the Scala Theatre, London, in the form of an entertainment known as "Kinemacolor"—otherwise nature photographed and reproduced as she really is in all her glories of life and color.

That this long-sought-for invention had been achieved was very much doubted, not only by the writer, but by the photographic world at large. However, it has been the writer's good fortune to witness this wonderful exhibition, and he was speedily converted from a sceptic to a believer, and from a fascinating desire to know how such a marvel could be created, a visit was paid to Charles Urban, Esq., the father of the practical application of natural colors to kinematography, and also the managing director of the Natural Color Kinematograph Co., Ltd.

This gentleman freely admitted that one of his greatest difficulties had been to contend with the discouragement he had received from scientists in general and animated photograph experts in particular, but now "seeing is believing," and instead of opposition, congratulations from all and sundry; in fact, Mr. Urban produced with pardonable triumph numerous letters from eminent men of science, of both England and abroad, referring to the invention with overwhelming exuberance, and saying that what was considered an impossibility had at last been realized. They were unanimous in declaring that while "Kinemacolor" displays were acknowledged to be the most scientific and most beautiful invention as yet produced by the aid of photography, the most marvellous

feature of all was the extraordinary simplicity by which natural colors were obtained.

For the enlightenment of numerous interested enthusiasts, perhaps, a short explanation as given by Mr. Urban to the writer will be appreciated.

It is apparent that "Kinemacolor" differs but very little from the manner of producing an ordinary black-and-white picture, except that to produce an animated picture in natural colors by the "Kinemacolor" process, it is necessary to use a specially sensitized film running in the ordinary way in a kinematograph camera containing a set of revolving filters, filtering the light as it passes from the lens to the film. This revolving filter is composed of two screens, each of two combined colors, one being red-orange, the other a blue-green. The red-orange and blue-green pictures, or color records, are taken alternately one at a time, and one lens only is employed, the light being cut off entirely during the movement of the film, which is, of course, stationary at the time of exposing.

The negative film is then developed in total darkness, and a positive film transparency printed from it in the ordinary manner. The positive film is not colored or tinted in any way, and is used as a register of black silver deposit of varying densities of alternating red-orange and blue-green color values, as recorded on the negative by the revolving screen in the camera.

In order to project the positive in color, it is obvious that there being no color in the film, color must be supplied or produced from an independent source. Herein lies the simplicity of the invention. The cone of light that is used for projecting is colored either red or green by means of a revolving color screen (identical to the one as used in the camera) before it passes through the film to the lens. The revolving filters are so geared or arranged that when, say, a red-orange record picture is being projected, the screen is in such a position that it will color the light red-orange, and blue-green when a blue-green record picture is being projected, and so on.

In "Kinemacolor" projection, one source of light, one picture (either red-orange or blue-green) and one lens only are employed.

From these remarks it can be well understood that one picture only is visible at one time.

It may be argued that this procedure cannot produce direct a natural color effect. Quite right, it cannot. The projection of a "Kinemacolor" picture is purely an optical illusion, in which the inability of the human eye to detect an object in a lesser fraction of time than one-tenth of a second is taken advantage of.

A total of about forty pictures per second is shown, that is to say, twenty red-orange record pictures and twenty blue-green record pictures are made to alternate in rapid succession, the brain of the observer automatically selecting such varying intensities of red-orange and blue-green light as are allowed to fall on the screen by the different densities of the positive film, as required to produce the tints of nature.

It is well known among photographers that in all three-color processes the camera screens are red, blue, and green. This fact prompted the writer to enquire how the blue was produced, which, by the way, was especially apparent in a "Kinemacolor" picture of a violet-blue pansy flower study, the light-blue of the cornflower, and the numerous shades (from light to very deep purple, and, in one case, indigo) of a collection of *Daily Mail* sweet peas. This, it was explained, was due, first, to the use of a blue-green screen

in the camera and projector, and, second, by the use of the electric arc for projecting purposes, which, on account of its exceedingly high temperature, produces an intense white light of a greater value in the blue-violet rays than even sunlight itself.

As simple as all this really is, it is astounding to conceive that an admixture of red-orange and blue-green light can also reproduce the effect of sheen on horse's coats, iridescence of soap bubbles and bird's plumage, transparency of colorless water and liquids, the coldness of marble statuary, the glitter of polished woods and metals, the effect of polarized light on crystals as seen through the microscope, even the rainbow itself, the glories of sunsets, the sparkling sea, etc.

Not until the "Kinemacolor" process was perfected was it possible to faithfully reproduce the absence of all color known as "black;" of course, we all take and produce "black-and-white" photographs, but the black does not convey the same impression of black as we see reflected by black wood, black cloth, the "visage" of a black man or woman, black boots, etc.

It has been the dream of many an inventor to produce stereoscopic pictures in projection without the use of hand or mechanical apparatus. Here, again, "Kinemacolor" scores, for in addition to it giving us the colors of nature, all objects are made to stand out in bold relief; all idea of a flat picture on a sheet is lost, in fact it is difficult for one to realize that one is looking at a canvas and not at the real scene. This stereoscopic effect was by no means looked for during the early experiments; it was simply a natural sequence, and is no doubt due to the fact that color gives to all objects a sense of solidity and roundness, which is much preferable to the sharp outline and flat effect of an ordinary black-and-white picture.

AN APPEAL FOR UNIFICATION OF PHOTOGRAPHIC FORMULAS AND STANDARDIZATION OF PHOTOGRAPHIC CHEMICALS

BY HENRY LEFFMANN

ANYONE who compares contemporary photographic literature with that of chemistry and pharmacy will be impressed with two serious shortcomings in the former. These are the irregularity in the formulas for the solutions, and uncertainty as to the strength, purity, and identity of ingredients as sold by supply houses.

In practical chemistry and pharmacy a great amount of reform has been brought about by the publication of official lists of formulas and the establishment of standards for the purity of drugs and chemicals. Every reputable apothecary in the United States will furnish on a prescription calling for, say, tincture of opium, U. S. P., a preparation substantially identical, so that a patient travelling from the eastern to the western coast can renew the prescription without fear of irregularity in the medicine. Analytical chemists are now furnished with reagents carefully tested and with the nature and amount of any impurities specifically stated on the label. Moreover, drugs and chemicals are sold under proper names—not under trademarks or misleading titles.

It is, in my opinion, the duty of photographers, professional and amateur,

to make strong efforts to bring about new methods in which photographic formulas shall show greater uniformity and photographic chemicals be sold under descriptive names and with some indication of their quality and strength.

It is hardly necessary to take up space to give specific instances of the abuses to which I allude. Text-books and journals devoted to photography, and the catalogues of supply-houses reek with flagrant instances of all these bad methods. In a recent issue of *Portrait*, by the Ansco Company, two formulas are given which are correlated and should have been uniform as to volume, but one is for 64 ounces and the other for 48, that is, the small volume has the awkward ratio of three-quarters the larger. A certain coal-tar derivative, having been introduced into use as a developer by one firm, is designated by an arbitrary name and cannot be sold under that name by any other firm. Hence several barbarous word-coinages in photographic literature. A prominent firm advertises "metoquinone." As this is used in the class of developers in which the well-known metol-hydroquonone mixture is ordinarily used, it may be suspected that it is merely a mixture of these substances; but why should the users be in doubt, and, further, is the "quinomet" which is mentioned in some formulas of Continental provenance, the same as "metoquinone?" If yea, why two names when one will serve, and if nay, why two names so suggestive of identity? Is the "diamidophenol" that is frequently noted in recent formulas, published by the Lumière Company, the same as "dianol?"

Not the least defect of contemporary photographic literature is its ignoring of all the principles of modern chemical nomenclature. There is much to be accomplished, it is true, in developing a system of nomenclature of compounds; but, as far as ordinary inorganic substances are concerned, chemists are in essential agreement and photographers should fall in line. Such terms as "bromide of potash," "carbonate of soda," "red prussiate of potash," should be consigned to the scrap-heap. Indifference to precision in nomenclature is sometimes carried so far as to seem intentional rather than inadvertent. One often sees in the same series of formulas a collection of monsters like "pot. brom." and "bromide of potash," and then, by a sudden lapse into righteousness, "potassium bromide."

Mere criticism and enumeration of specific errors are not the main purposes of this article. I wish to lay out suggestions for reform, and hope to enlist the aid of editors of photographic journals, authors of photographic text-books, and compilers of catalogues of supply-houses.

In the first place, the adoption of some standard volumes and weights is needed. In Continental Europe, the general adoption of the metric system has accomplished much in the way of uniformity. The centimeter, with its simple weight relation to the gram, makes the division or multiplication of quantities mere matters of mental arithmetic in many cases, and avoids all uncertainty as to the amounts intended. English-speaking peoples, however, have not shown much tendency to accept the metric system. It is true that chemists and physicians have almost unanimously adopted it, but it is not yet "among the masses." In Great Britain and some of the English colonies, there is, indeed, a special antagonism to it. One of the greatest of English philosophers, the late Herbert Spencer, left an endowment, the income of which is to be used in the propaganda against the

introduction of a decimal system of weights and measures, and English accountants have actually been known to express their joy that they have the task of counting in pounds, shilling, and pence, and not in francs and centimes (presumably also in dollars and cents).

Much of the opposition to the metric system among English-speaking people is probably Chauvinistic. I have even read of objections to it because it was produced during the throes of the French Revolution, when leaders unfavorable to the church were in power.

It must, however, be borne in mind that a "decimal" system can be used which has most of the advantages of the metric system, and yet does not involve the introduction of its nomenclature or a knowledge of its principles. In truth, it is now well-known that the meter is not a "constant of nature" as it was intended to be, but like all standards an arbitrary dimension.

The first step towards simplifying formulas in English will be to get rid of the confusion in regard to some of the common measures and weights. The word "gallon," for instance, applies to two very different volumes: the (British) Imperial gallon weighing (of water) 10 avoirdupois pounds, and the United States gallon, 8.33 pounds. It is obvious that these measures have not only the disadvantage of ambiguity, but bear no simple arithmetic relation to each other. The term "ounce" is even more confusing: an avoirdupois ounce is 437.5 grains, a troy ounce 480 grains, a fluidounce in American practice is 454.6 grains, a fluidounce British, 436.5 grains. Of course, the dram (or drachm, as our English cousins often insist on spelling it, though I wish they would not), which is taken as one-eighth of an ounce, will differ as the higher unit differs. The English pint contains 20 fluidounces; a pint of water will, therefore, weigh 1.25 av. pounds. The United States pint contains 16 fluidounces, and will weigh a little over 1 av. pound. Hence not only is it no longer true that

> "A pint is a pound
> All the world 'round;"

but there is again the extremely confusing arithmetic relations between the American and English measures, on the one hand, and between the volume and weight on the other.

As for drams, scruples, and minims, I say "let them be anathema" as well as those who prescribe them.

In a reform movement we must not ask too much. For myself, I would be rejoiced to see the whole framework of the so-called English weights and measures go by the board with our vicious spelling; but such changes are not in sight. We must be content with some amendment. The following plan is offered as not involving any serious change in either methods of calculation or equipment of the photographer's laboratory.

All measures of volume, higher than those that can be conviently expressed in drops, should be given in English fluidounces; such measures as pints, quarts, gallons, drams, and minims should not be used. As a rule, the ounces should be sixteen or a simple multiple or sub-multiple thereof. Weights of solids should be in grains, and, as far as possible, in multiples of fifteen. Solutions of the same class should be made to fairly uniform volumes. Thus developing, fixing, and reversing solutions should be written for in 16 or 32 ounces. My reason for making 16 the basis of these measures is that not only is it one than can be easily measured off in usual laboratory glasses and bottles, but it is sufficiently near to 500 c.c. (and 32 ounces to 1,000 c.c.) to enable those who prefer the metric system to use

the formula with a simple exercise of mental arithmetic. It is true that for the exact work of the analytic laboratory, or the prescriptions of the apothecary, the error would be too great; but even a cursory inspection of photographic formulas shows that proportions are not observed closely.

When two or more formulas are given with the intention that portions of each solution are to be mixed, equal volumes should be prescribed, except when one solution is either very costly, liable to spoil, or used only in very small proportion. A recent formula by Lumière fr. & Seyewitz is:

A

Sodium sulphite . .	180 grams
Mercuric bromide . .	9 grams
Water	1000 c.c.

B

Sodium sulphite . .	20 grams
Metol	20 grams
Water	1000 c.c.

For use take 150 c.c. of A. and 40 c.c. of B.

In my opinion these formulas are open to several criticisms. Why is mercuric bromide prescribed instead of mercuric chloride? The latter is easily obtained and is familiar to photographers; the bromide is a comparatively rare mercurial, and is unfamiliar to even experienced chemists and pharmacists. If the process really requires the bromide the fact should have been stated. I suspect that the bromide is given for much the same reason that a pompous consultant will substitute quinine hydrochloride for quinine sulphate—that is, to impress the patient with the thought that a new treatment has been introduced. Further, why are not the two solutions of such strength that equal parts may be mixed? This is much more convenient than measuring out different amounts. In the article from which the above instance is taken occurs also a formula for acidified permanganate. No information is given that such a solution soon decomposes, but that the ingredients may be separately dissolved and will keep indefinitely, simply requiring to be mixed as wanted.

Among other objectionable features of photographic formulas is the use of powerful chemicals in unnecessarily concentrated form. Glacial acetic acid is often directed to be added to a large volume of water. Surely for such purposes a more dilute acid will suffice and be cheaper, safer, and more convenient. A common commercial form is No. 8, containing about 33⅓ per cent. of the true acid. This can be used in the required larger proportion. Instead of subjecting the photographer to the trouble, for instance, of measuring out a "dram" of the glacial acid, half-ounce of the 33⅓ per cent. grade can be prescribed and the other ingredients increased a little to secure a correct proportion.

In many cases the method of preparing solutions is unnecessarily complicated. As an instance, take the formulas for the uranium intensifier (a useful solution, by the way, in many cases):

A

Uranium nitrate . .	6 grains
Glacial acetic acid . .	32 minims
Water 16 ounces	

B

Potassium ferricyanid .	6 grains
Glacial acetic acid . .	32 minims
Water	16 ounces

Mix equal parts.

Several objections may be made to these formulas.

In the first place, uranium acetate should be prescribed. It is a common reagent and occurs as a coarse powder which keeps well in a closed bottle and is easily weighed out. Useless trouble is caused by the double measuring of the acetic acid. Information should be given with the directions for the

process that the acidified uranium solution will keep a long while, but even a water-solution of the ferricyanid will spoil soon. A dilute acetic acid should be directed so that a larger volume can be used, and the whole of the acid should be put with the uranium. The corrected formula will stand thus:.

A (Keeps well).

Uranium acetate . .	5 grains
Acetic acid No. 8 . .	2 ounce
Water	16 ounces

B (Must be fresh).

Potassium ferricyanid .	5 grains
Water	16 ounces

For use mix equal parts.

I cannot help to animadverting upon some exceptionally badly stated formulas that have lately appeared. In a recent issue of *British Journal of Photography*, a correspondent gives a method for toning lantern slides. The formula is:

Water	2 ounces
Acid acetate . . .	2 drams
Ammonium molybdate	10 grains
Potassium ferricyanid .	4 grains

One is compelled to ask immediately, "What is acid acetate?" But possibly a typhographical error has occurred. It would be much better to give the formula for 8 ounces. A similar excuse, however, cannot be allowed for some formulas in the *Journal of the Royal Photographic Society*, November, 1911. The first is for the preservation of pyro solution:

Pyro	1 ounce
Citric acid	50 grains
Sodium sulphite . .	6 ounces
Water to make . . .	19½ ounces

It is presumed that the sulphite is the crystallized form, as that is usually given in English formulas. Why is the solution made up to the peculiar volume of 19½ ounces? Surely there there can be no objection to 20 ounces. Another formula, equally eccentric, is:

Bromide of potassium	1 ounce
Water to make . .	9 ounces, 1 dram

We, perhaps, ought to be thankful that we are not directed to use "bromide of potash," but in the name of all that is sensible why not make up to 10 ounces?

Standardized Chemicals

An important step toward accuracy and certainty in chemistry and pharmacy has been made of late years by the introduction of chemicals that have been tested as to strength and purity, and the results presented on the label. There is no reason that this should not be done with the more important photographic chemicals. For instance, the sulphites, bisulphites, and so-called "metabisulphites" should have stated on the labels the amount of sulphur dioxide they were capable of yielding when they left the factory and the date of the test. Sodium carbonate should, in the same way, be labelled as to the carbonate present. Photographers, as a rule, pay high prices for chemicals, and there is for the supply-houses a margin of profit quite sufficient to allow of such information being obtained and given. There is probably a good deal of "fake" about the so-called "special chemicals." A photographic supply house may obtain from the manufacturer a good grade of sodium sulphite, for instance, and putting it up in rather fancy style, with a trade-mark, retail it at a large advance on the first cost. The timid or inexperienced photographer who has started to use "Blank's" plates will find in the directions that accompany the package, that he must use "Blank's"

chemicals to get the best results, and he may not know that the difference between "Blank's" and "Dash's" sodium sulphite is principally the label, the materials having come from the same factory.

Photographers have been for many years paying tribute to unfair business methods and wasting energy on confusing details in preparing their solutions, and this article is published in the hope to stir up some effort at reform.—*Journal of Photographic Society of Philadelphia.*

DR. MEES AT KODAK PARK

[THE following interesting announcement is received from the Eastman Kodak Co. which is to be congratulated on having secured the services of Dr. Mees.—EDS. W. P. M.]

It is our policy to provide whatever may be necessary to the maintenance of our leadership in the manufacture of goods for every important phase of the photographic industry. This means not merely the purchase of a business or of formulæ, but means what is often more important, the association with ourselves of the man or men who have built up that business. In line with this policy, we have purchased the business of Wratten & Wainwright, Ltd., of Croydon, England.

Wratten & Wainwright, Ltd., have long held the premier position among European manufacturers of color-sensitive plates and other products dealing with orthochromatic and color separation problems. Their success in this particular field has been due largely to the work of Dr. C. E. Kenneth Mees, who will soon become a part of our scientific staff at Kodak Park, making this same line of work that he has pursued so successfully in England, his specialty.

For many years Dr. Mees has been one of the foremost investigators of color-sensitive problems and has contributed much to the literature on the subject; his works include *The Photography of Colored Objects; Orthochromatic Filters*, an *Atlas of Absorption Spectra*, and many articles along these lines in the European photographic journals.

The special products of Wratten & Wainwright, Ltd., include the Allochrome, a plate remarkably sensitive to green and yellow, and the Panchromatic plate, sensitive to the whole spectrum, including deep red. Special light and tricolor filters and darkroom safe lights are also manufactured.

A special laboratory building is to be erected at Kodak Park, where Dr. Mees will continue his research work and also complete the plans for the manufacture of the Wratten & Wainwright products in this country. Meanwhile the Wratten & Wainwright products will be imported and will prove of extraordinary value to all those requiring plates and filters for orthochromatic and trichromatic work.

Yellow Stains on Development Papers.—The *Wiener Mitteilungen* once again draws attention to the inadvisability of fixing development papers in daylight, or, indeed, strong artificial light. Yellow staining is frequently caused by so doing, and prints should have a full five minutes in the hypo before being examined in the white light. An acid bath, however, renders staining far less likely when prints are fixed in white light, as it instantly arrests development.

By Seavy, New Castle, Pa.

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1. MADAME DE POMPADOUR

Illustrating Sidney Allan's Article

2. The Dauphiness
3. Louis de Silvestre
4. Louis XV
5. Marie Leczinski

Illustrating Sidney Allan's Article

6. THE DAUPHIN OF FRANCE

Illustrating Sidney Allan's Article

MASTERS IN PORTRAITURE—DE LA TOUR

BY SIDNEY ALLAN.

MAURICE QUENTIN DE LA TOUR was perhaps the greatest pastel portraitist of all time. Like Raphael Mengs, the German painter, he executed nearly all his work in colored crayons. He was a contemporary of the Marquise de Pompadour, whose portrait he painted in life size, full length, in 1755. He was successful all his life, and died a wealthy man at the age of ninety-seven. Eccentric and independent, he consented to paint a portrait only when he had made it understood that he was to be absolute master of the pose, the features, and the coloring of the model. A museum devoted to his work can be found in the town of St. Quentin.

Artists admire in particular his draughtsmanship, his sketchy treatment, his delightful color, and masterly handling of pastels. As a delineator of character he was keenly observant. He produced the actual illusion of physical appearance by some habitual pose, some unconscious gesture or peculiar attitude. He was more of a physiognomist than most portrait painters, and endeavored to characterize people by some mark of their station in life or sign of their profession. At times his faces showed too much facial expression. The reason for this may be traced to his realistic vision. He drew so accurately that he would reproduce features exactly as they were in nature—mouth with one corner going up and the other going down, or eyes of which one would be smaller and lower than the other.

Visitors to the Louvre may remember his protrait of the Marquise de Pompadour (Fig. 1). It is exquisite in color—a combination of white and gold (in the dress), pale blue (in the background), and a soft brown in the furniture and accessories. Elaborate settings, as in this picture, are most difficult to handle. Their selection is frequently inappropriate and the manifold details crowd the picture. They would be probably less objectionable if they were harmoniously arranged as in this canvas. It is one of the most perfect arrangements I remember. The triangular shape of the figure, although not over-large, fills and controls the space, and the table, books, portfolios, curtain, wainscoating, etc., are in perfect balance. They do not pop out. This is largely due to the pattern of the gown. The skirts present a very large plane, but this is broken up so successfully and thereby produce so much vibrancy that they could be surrounded by this large variety of objects without being disturbed by their distinct shapes and highlights. Marquise de Pompadour lived in luxury, so her surroundings are well chosen, and her taste and various accomplishments are reflected in her books, engravings, musical instruments, etc. The pose of the hands and the arrangement of the pages of the music book are masterly. The facial expression has been neglected, as it nearly always is in elaborate compositions of this kind.

Figs. 2, 3, 4, and 5 show a keener observation of character. The size of the head and bust in all four seems too large. It makes the composition a trifle awkward and clumsy looking. There also seems to be too much detail (in monochrome at least) for a plain background.

The arrangement of detail in itself

however, is charming, particularly so in Figs. 2 and 5. In the portrait of "The Dauphiness" the three dark ribbon bows are beautifully placed. They animate the white bodice. The hand holding the book is discreetly managed. It merely furnishes an interesting note that fills the lower right corner. It is not used as a point of interest. The eyes look out straight toward the spectator. The face, no doubt, is true to life. It shows imperfections, notably in the prominence of the nose, that most portraitists would have removed. The introduction of the back of the armchairs impresses one as being clever, yet it is a question whether the triangular shape of the bust would not have looked better without it. It makes the background to the right more empty-looking, as the symmetrical balance is lost.

Fig. 5 is a very successful representation of a smile. It just plays about the corners of the mouth. A gentle light falls on the face, diffusing it with brightness without sacrificing the modelling. The dress is a jumble of trimmings, frills, braid, and ornament; but it does not jar. It merely produces an animated middle-tint plane, which is balanced by the black shawl around the face.

The portrait of Louis de Silvester, a painter of note of the time (Fig. 3), is a clever bit of space arrangement in the background. The light canvas on one side and the dark background above and to the left yield a pleasant contrast. History tells us that Silvester was an octogenarian when this portrait was painted, but he hardly looks old enough for that. The picture is less restful than the others. The sketchy treatment somehow disturbs. It is spotty and there is little differentiation of values throughout the figure. In color it may be more satisfactory.

Fig. 4, "Louis XV," is rather an ordinary portrait. It is well drawn, but rather harsh in effect. Armor is too unwieldy to permit straight treatment. The background should be darker, then the high-lights on the shoulder plate would shine forth more brilliantly, and the effect would be more picturesque and less matter-of-fact.

The pastel of "The Dauphin of France" is a simple composition for an oval area. It shows the head almost in a full-face view and the body in less than three-quarter. This produces a typical dark shape to the left. La Tour apparently was not fond of symmetrical arrangements, but the space would have been better filled if the coat had been shown more in three-quarter.

To the monochrome artist La Tour is particularly interesting as a manipulator of detail and accessories. Also the special size of his heads, and their placing in an area that is generally $4\frac{3}{4} \times 5\frac{1}{2}$ is worthy of particular study. Color and facial expression, however, are La Tour's greatest achievements as an artist, and in the handling of his medium he has no superior to this very day.

A METHOD OF MIXING AND KEEPING PHOTOGRAPHIC SOLUTIONS, AND A PLEA FOR THE USE OF THE METRIC SYSTEM

EVERY photographer who uses a variety of processes knows how bottles accumulate. This is especially so with those who, treating photography purely as a hobby, like to try all the processes they meet with, and to learn

all the different methods of producing pictures. Some time ago, finding that my solutions were beginning to accumulate rather rapidly, I set out to find a quick and easy method of mixing them up as required from standard solutions. The first thing that struck me was to use 10 per cent. solutions, a method frequently described in books on the subject. But I disliked 10 per cent. solutions, because they are not easy to mix correctly, and, if mixed correctly, are not convenient to use. Thus, to get exactly one gram of potassium bromide from a 10 per cent. solution, it is necessary to *weigh* 10 grams of the solution. Measuring will not give the desired result, though it is often taken as sufficiently accurate. I eventually hit on a method which is easy to use and also quite accurate.

Let me first describe my method of mixing and labelling the stock solutions, and I will then give some examples of their use.

Method in the Dark-room

Every bottle that I use bears on the label the name of the dissolved substance, together with a number. Thus, Sodium Carbonate 5, Potassium Bromide 20. The meaning of the numbers is as follows: If a solution is numbered 5, it means that 5 c.c. of it contain exactly 1 gram of dissolved substance. If numbered 20, then 20 c.c. of it contain 1 gram of dissolved substance. In fact, the number on the bottle is always the number of cubic centimeters of the solution which must be taken to get 1 gram of the dissolved substances. It is exceedingly easy to mix up such solutions. To prepare a "5" solution of sodium carbonate, for instance, it is only necessary to weigh, say, 100 grams of the crystals, to dissolve them in about 450 c.c. of water, and, *when dissolved*, to make up to exactly 500 c.c. with water. There is no approximation here, as every 5 c.c. of the fluid will obviously contain *exactly* 1 gram of crystals dissolved.

The reader will notice that in the above the metric units of weight and volume are employed. I always use them myself, because they are much more convenient than the English measures, and much easier to use in calculations. This will appear later in this article.

Everyone, however, does not possess a set of gram weights, but most photographers have a set of ounce and grain weights, and it is quite as easy to mix the solutions using these weights. Thus, in the above example, we might have weighed 4 ounces of sodium carbonate crystals, and, after dissolving, made it up to 20 fluid ounces, or 1 pint, with water. This solution would be exactly the same as that described above. But it will be found easiest and best always to *use* the solutions in the metric way. Cylindrical measures, graduated in cubic centimeters, can be bought for a few pence, and a convenient set to have is one comprising three measures, *viz.*, one of 10 c.c. capacity, one of 50 c.c., and one of 200 c.c. Such a set costs about $1.00. The reason why the metric system is easier to use is that all the units one needs in practice are the "cubic centimeter" and the "gram," whereas in the English system there is such a complication of different units, *e. g.*, ounces, grains, minims, etc., related by awkward factors, such as $437\frac{1}{2}$ grains to the ounce.

Most substances can be dissolved singly in separate solutions. There is one important exception, namely, the developing agents. Metol, pyro, and such substances will only keep in solution if a preservative is employed. I always use sodium sulphite, and find

it quite satisfactory. To take metol as an example, I mix equal weights of metol and of sulphite in a solution of strength "50." Thus 50 c.c. will contain 1 gram of metol and 1 gram of sulphite. This is quite enough preservative, provided the solution is kept in *small bottles*. I mix a considerable quantity at a time, storing it in 2-oz. or 3-oz. bottles. The solution will keep for months if the bottles are full, and, by using small bottles, the one in use is never left partly empty for a long enough period to spoil the contents.

The following are convenient strengths for solutions of the more common substances used in photography. For those less frequently used, the reader will have no difficulty in selecting suitable strengths of solutions for his particular requirements:

Metol and sulphite	50
Hydroquinone and sulphite	50

This is a convenient strength for most developing agents.

Pyro and sulphite (or pot. metabisulphite)	10

It is a little more difficult to measure the small quantities of pyro from a "10" solution than from a "50" solution, but the "10" solution keeps much better.

Sodium sulphite	5

Many writers state that this salt will not keep in solution, and this is certainly true if the air has access to the liquid. I usually mix enough to last for a month or two, and have never found any trouble due to oxidation. The solution is so strong that the slight percentage which gets oxidized to sulphate when the bottle is getting empty does not matter at all.

Sodium carbonate (crystals)	5
Potass. and sodium hydroxide	5
Potass. carbonate	5 and 2

It is convenient to have these two strengths, because many lantern-plate formulæ contain such a large quantity of potassium carbonate that, if mixed from a "5" solution, too much water would be added, and the final volume of the developer would be found greater than the formula required. The weaker solution is wanted when the developer contains less carbonate, to save measuring very small quantities.

Potass. ferricyanide	10
Potass. bromide	20 and 5

Here, again, the "5" solution is useful for mixing such solutions as the bleacher for sulphide toning, while the "20" solution is convenient for small quantities.

Ammon. sulphocyanide	20	for gold
Gold chloride	200	toning.
Hypo	2	
Common salt	5	

In order to use the above solutions in the most convenient way, it is necessary to state the composition of a developer or other solution in a manner slightly different from that generally adopted. I will take as an example the developer I generally use. It is:

Metol	4 gm.
Hydroquinone	8 gm.
Sodium sulphite	50 gm.
Sodium carbonate	50 gm.
Water to	2000 c.c.

It is not convenient to use in the above form, as one never wants 2000 c.c. mixed at once, and it is inconvenient to have to divide each quantity by some factor when mixing. I therefore have adopted the plan of stating all formulæ in grams per 100 c.c. To do this for the above, it is necessary to divide each figure by 20, and the formula becomes:

Metol	0.2 gm.
Hydroquinone	0.4 gm.
Sodium sulphite	2.5 gm.
Sodium carbonate	2.5 gm.
Water to	100 c.c.

In ordinary work 100 c.c. or 200 c.c. are the quantities most often needed. Now, suppose 100 c.c. of the above developer are required. To get 0.2 gram of metol from the "50" solution, we must take $0.2 \times 50 = 10$ c.c. For 0.4 gram hydroquinone, take $0.4 \times 50 = 20$ c.c. Now comes a point peculiar to developers in which sulphite is used as a preservative. We have already taken $0.2 + 0.4 = 0.6$ gram of sulphite with the metol and hydroquinone. The formula requires 2.5 grams, so there remains 1.9 grams to be added. The solution of sulphite being of "5" strength, the volume needed is $1.9 \times 5 = 9.5$ c.c. Finally, for the 2.5 grams of carbonate, take $2.5 \times 5 = 12.5$ c.c.

We have now taken the following volumes:

Metol and sulphite	10.0 c.c.
Hydroquinone and sulphite	20.0 c.c.
Sodium sulphite	9.5 c.c.
Sodium carbonate	12.5 c.c.
Total	52.0 c.c.

This is made up to 100 c.c. with water.

Those who find it troublesome to make such calculations as the above at the time of mixing can, if they like, tabulate the volumes needed (as above), and hang up the table in the dark-room for reference. The calculation takes some time to describe, but it is made in practice as quickly as the measuring can be done. Formulæ in constant use very soon fix themselves in the memory, and calculation or reference to tables is no longer necessary.

The above example is rather fully discussed; a couple more, set out briefly, will sufficiently illustrate the system.

The Wellington formula for the bleacher used in sulphide toning is:

Potass. ferricyanide	400 gr.
Potass. bromide	600 gr.
Water	5 pints

This reduces to

Potass. ferricyanide	0.9 gm.
Potass. bromide	1.4 gm.
Water to	100 c.c.

To mix (say) 200 c.c., we must take

Potass. ferricyanide sol.	$2 \times 0.9 \times 10 = 18$ c.c.
Potass. bromide	$2 \times 1.4 \times 5 = 14$ c.c.
Water to	200 c.c.

As pyro developers are so very common, I will give an example of one. The pyro may be preserved either with sulphite or metabisulphite. The latter salt takes no part in the action of the developer, being decomposed by the excess of alkali added in mixing. I have found a "10" solution of pyro and sulphite to keep quite well in small bottles, and if such a solution is adopted there is no need to use metabisulphite at all. The alternative plan is to mix a "10" solution of pyro with enough metabisulphite to preserve it (from quarter to half the weight of pyro).

Thus the Imperial pyro-soda developer reduces in our notation to:

Pyro	0.6 gm.
Sodium carbonate	5.0 gm.
Sodium sulphite	5.0 gm.
Potassium bromide	0.1 gm.
Water to	100 c.c.

The quantities taken to mix 100 c.c. will be:

Pyro and sulphite	$0.6 \times 10 = 6$ c.c.
Sodium carbonate	$5 \times 5 = 25$ c.c.
Sodium sulph.	$(5 - 0.6) \times 5 = 4.4 \times 5 = 22$ c.c.
Potassium bromide	$0.1 \times 20 = 2$ c.c.
Make up with water to	100 c.c.

If the pyro were preserved with metabisulphite, as mentioned above, the quantities would be the same, except the sodium sulphite, which would then be $5 \times 5 = 25$ c.c.

The reader will now be in a position to see why the metric system and the decimal method of stating the formulæ make the calculations more straight-

forward than if the English measures were used. After using the above system of mixing for a short time, it will be found quite as simple as any other method.

All formulæ being reduced to the one standard form of grams per 100 c.c., it is very easy to compare, at a glance, the proportions of the constituents in different formulæ.

With developers like amidol, which will not keep in solution for long, the dry amidol can be dissolved in a little water, and the other constituents added from the bottles.—ERNEST F. RELP in *The Amateur Photographer*.

THE NEED OF LEGAL RESTRICTIONS ON THE PUBLICATION OF PHOTOGRAPHS

BY HENRY LEFFMANN

IT is not three-quarters of a century since Niepce, Daguerre, and Henry Fox Talbot developed practical methods for picture-making by light. Since their time an enormous advance has been made both in the mechanical and artistic phases of the art. Its scientific basis has been carefully studied and its technique has been made simple and certain. The most notable advances are the discovery of the rapid emulsions and the methods for direct color work.

In its earlier history photography could not expect recognition as an art. The earliest pictures were mere contrasts in black and white, though the daguerreotype was pretty and in expert hands yielded a good likeness. The fact that silver nitrate blackens when exposed to light in association with organic matter was known to Glauber more than two hundred and fifty years ago, but real picture-making dates, as above noted, from work done shortly before the close of the first half of the nineteenth century.

It could not happen otherwise than that a method of this type should be misapplied as well as applied. Its use for forgery and counterfeiting is almost contemporaneous with its development, but this paper is not concerned with those phases.

It has appeared to me that the time is now at hand to appeal for definite restrictions on the making and publishing of some classes of photographs. As regards some types, but little difference of opinion among respectable people will be found; in fact, laws are already on our statute books against indecent and obscene representations, no matter how produced. Photography, however, often violates the spirit of these laws by a specious claim that the work is artistic and, therefore, may escape condemnation. Undoubtedly the work of the artist stands upon a different basis from other representations. The nude human figure, for example, is the most difficult natural object for presentation either on canvas or in marble, and it is not unnatural that all true artists should strive to paint or carve it. It is true that even this opportunity is not infrequently misused. In any large art gallery one may see examples of work in which it is not artistic but purient motives that are utilized to secure attention. Several of the paintings and sculpturings that have been recently subjects of public criticism are of this type. The cry of "art for art's sake" has been much abused. Little in the present temper of the world of artists can be relied on to protect us from such abuses, but

this should not deter us from attempting to prevent the spread of false taste and corrupting influences to other channels.

Whatever view may be taken of paintings or sculpturings of the nude, there will be, I think, no doubt in the minds of thinking people that a photograph belongs to a wholly different field, and cannot be considered art in that sense. True art is the origination of form, or combinations of forms, within the realms of the imagination, although, like the drama, poem, or story, a basis of fact may be utilized. One of the most interesting pictures that I have ever seen was entitled the "Boyhood of Hamlet." It represented a court fool carrying on his shoulder a pretty child. Such a scene appeals to us as a real one, and yet it is an imagination of an imaginary person. The scene is merely incidentally mentioned in the play.

In photography there is no true artistic selection or composition. The picture is produced by a manipulation of apparatus and chemicals, and the personal equation is reduced to a minimum. It may be said, and it cannot be denied, that, other things being equal, better photographs are produced by those having artistic ability or training than by those not having such, but this does not ennoble photography; it only shows its limitations and insufficiency. There is, however, a still more dangerous feature of photography in this relation. It is cheap, hence within the reach of almost anyone. This has led to the production of obscene postal cards, with which the mails have of late years been so choked that the U. S. authorities have been obliged to consider the question of restriction. In former years, the vulgarities and obscenities of the great European capitals were exposed only to those Americans who actually visited them, or to a few intimate friends of the traveller who cared to bring along some specimens of photography. Now a few centimes or pfennings will enable anyone to forward some coarse picture to friends at home.

A special feature of the abuse of photography is the sale of the so-called "artists' photographs." These are photographs of living nude figures ostensibly for use by artists, but really not so used or usable by them. The true artist must draw from the real figure. No work is worthy of classification as art work if it is simply a copy of a photograph. Photography is used in a legitimate way in the copying of actual paintings and drawings. By these means the works of great artists are brought within the reach of many, and the public taste is advanced. There is, however, a great difference between the photographic copy of Powers' "Greek Slave," Thorwaldsen's "Eve," and the photographs of living models, so commonly seen in picture stores, clubs, and bachelor apartments.

In most recent times a further abuse of photography has developed. The introduction of motion pictures has much extended the opportunities of the corrupter. In the screen demonstrations some limit is fixed. A mixed audience of appreciable size is recognized as not suitable for the broadest representations, but in the motion-picture apparatus commonly called the mutoscope and operated in the halls seen along our principal thoroughfares and among the side-shows of our summer resorts, much coarseness is indicated. The profit of these machines must be considerable if we are to judge from the manner in which men who consider themselves well-behaved allow the exhibitions. Some years ago a food show was conducted in this city under the auspices of some of the prominent grocers. At this a mutoscope

exhibition of such a character was included, that a formal protest against it was made by an organization having for its aim the promotion of social purity, and an effort was made to enlist the city authorities for its suppression, but the request was given only a half-hearted support, and the concession was too profitable to the managers of the show to act against it. In the early days of these exhibitions they were "Pure Food Shows," but the managers soon abandoned the adjective. It did not always apply.

At suburban parks objectionable motion pictures have been shown, and a highly objectionable series of mutoscope views offered in the sideshow. The latter are all the worse because they can be seen for a cent, and are thus open to the youngest and the humblest.

Outside of the representation of indecent scenes by motion pictures, I wish to enter protest against the representation of criminal acts, such as train, bank, and highway robberies, vendettas, fake battles, and massacres. All these have a deteriorating influence upon the young, and have no justification either as art or history.

In former years respectable firms did not openly advertise illegal and offensive pictures, but now film companies in official catalogues, copies of which may be obtained from respectable dealers, not only list such pictures but call special attention to them.

This misuse of motion pictures is the more regrettable because the art is a most valuable addition to means of education and entertainment. Any audience, educated or uneducated, can be provided with an exhibition that will entertain or amuse without passing the bounds of propriety or good taste, or prostituting the art to such base uses. It is sad that reputable manufacturers should offer, and reputable dealers sell, the low-grade productions.

An entirely different phase of abuse of photography is the unauthorized publication of portraits. The law upon this point is somewhat uncertain, but there should be some right in the individual to privacy. There is, of course, scientific value in the photographs of distinguished and even notorious persons, and it would be a matter for regret if these were wholly supressed, but human vanity can be trusted to give us an ample supply of permitted photographs of the learned, the rich, or the artistically or politically prominent; those who do not desire to appear in counterfeit presentment should be protected.

I have sought to bring together here some thoughts that have been developed of late by seeing the great abuses to which the cheapening and simplification of photographic methods have led, and I believe that questions of restriction of the art will be before long a matter for serious consideration by those who have the moral and esthetic well-being of the community at heart. —*Journal of the Photographers' Society of Philadelphia.*

Stains. Negatives may be stained from a variety of causes. Brown or yellow stains, causing plate to become discolored either entire or in sections, are usually due to imperfect fixing or incomplete washing after fixing. The use of decomposed hypo or oxidized pyro developer will also cause stains.

Yellow edge or discoloration of plate is most frequently due to insufficient fixing and also sometimes to insufficient washing.

Transparent spots may be due to an oily substance on the surface of the plate which would repel the developer and prevent its action.

OPTICAL GLASS

(Concluded from page 92)

For the purpose of the present account of the defects of glass from the optical point of view, the important conclusion to be drawn from the conception that glass is really a liquid, is that it is essential that any change from this liquid condition to a truly solid and therefore crystalline state at once endangers the use of the glass as a homogeneous transparent medium. Yet such a change from the condition of a viscous liquid to a crystalline solid can be brought about in most kinds of glass, and in some it occurs with considerable ease. For ordinary glass, although a liquid, yet exists as such in a sense in definace of the ordinary laws of freezing and melting, for, strictly speaking, every liquid and liquid solution has its own proper freezing temperature at which it should and under proper conditions will pass into the solid crystalline state. The difference in the behavior of various substances arises solely from the readiness and speed with which this change from the liquid to the crystalline takes place. This change is always facilitated by slow cooling, while rapid cooling tends to prevent it. It has actually been shown that the great majority of substances can be obtained in a vitreous condition by sufficiently rapid cooling, while there is only one substance known, of all that can be readily obtained in the molten state, which cannot be caused to crystallize by very slow cooling through some suitable temperature. Now, in the case of most kinds of glass the tendency to crystallize at the true freezing-point is very small, and even the very moderate rates of cooling employed in all kinds of glass manufacture are sufficiently rapid to "chill" the glass to the extent of totally inhibiting the change to the crystalline state—the glass is cooled down below the temperature at which the tendency for this change is strongest, and after a time its own viscosity or internal resistance to molecular movement becomes so great that the "liquid" condition is permanently retained. But if this "undercooled" liquid is heated up to a temperature near that of its true freezing point, and if it is kept at that temperature for some time, then even the most stable kinds of glass undergo crystallization—crystals begin to form in the soft, red-hot glass, and these rapidly spread throughout the mass. This is the phenomenon known as "devitrification"—it is in reality nothing other than the passage of the undercooled, essentially unstable "liquid" state of the glass into the truly solid, crystalline, and opaque state which is the really stable form. Sometimes—as in the production of "Aventurin"—this property of glass is utilized, but as a rule the glass-maker regards "devitrification" as an arch enemy to be carefully guarded against by avoiding all operations which tend to keep the glass for any length of time within the dangerous temperature range (a dull red heat for most ordinary glasses). With most ordinary varieties of glass this is easily accomplished, but in the case of certain optical glasses of special composition, required in order to obtain certain extreme optical constants, the tendency for the glass to deposit opaque crystals becomes exceedingly great, and even when special precautions are taken to lessen the risk of devitrification, that process sets an effectual limit to the range of chemical composition which

can be attempted for large masses of glass.

Among the general physical properties required in optical glass, both chemical durability and physical hardness are important. Here again we have requirements which can be met to the fullest possible extent if the glass-maker is given an unrestricted choice of chemical composition. Some of the harder "crown" glasses, such as the lime-soda and lime-potash silicates and certain of the borosilicates, are exceedingly hard, and also very resistant to all manner of chemical action, excepting only the action of hydrofluoric acid and its soluble salts. On the other hand, where the glass-maker is called upon to meet special and extreme optical requirements, he is driven to employ compositions for his glasses which may render them mechanically soft and chemically unstable. It is an interesting and a significant fact that the further the optical constants of a glass are removed from those of the glasses named above, the more liable is it to chemical attack and to physical injury. Many of the most promising of the new varieties of glass originally introduced by Abbé and Schott have since been abandoned because their chemical durability was too small—their polished surfaces rapidly became dimmed under the action of the moisture and carbonic acid of the air. For the less stable of these glasses, indeed, it has been found that even the apparent protection afforded by a cemented surface placed in optical contact with another lens is not adequate to prevent deterioration, and the use of these glasses, including most of the phosphate glasses and the borate flints, has had to be abandoned entirely. In the case of others, use in protected situations only is allowable. Fortunately, however, it has been possible to produce many of those special glasses which are of the highest importance for photographic lenses of sufficient durability to allow of their unrestricted use. Yet even with these glasses it is important to protect the lens surfaces as much as possible against attacking agencies. Moisture is the most serious of these, so that lenses should be kept in a dry, cool place. Another enemy acting both from the chemical and the physical point of view, is dust of all kinds. Particles of organic matter, which are always present in dust, are apt to produce spots on these more delicate glass surfaces if they are allowed to rest in contact with them for any length of time. This is a purely chemical action; the dust particle, perhaps, with the aid of the moisture which always tends to condense on glass surfaces, interacts chemically with the material of the glass and produces colored or at least dull spots of decomposition products. Inorganic dust particles, on the other hand, frequently consist of hard, gritty material capable of scratching the glass surface, and these do their damage when the owner of the lens takes it out and wipes the surface. Such wiping of lens surfaces should be undertaken as rarely as possible and with great care. If possible, the dust particles should first be blown or sucked off. One of the safest methods of wiping lens surfaces, it may be mentioned, is by the use of really soft, dry, clean tissue-paper. From this point of view it is of course evident that it is an important point in the design of all kinds of compound lenses to place the hardest and most durable glasses of the combinations on the outside; on the other hand, even the inside surfaces are not quite safe from injury, as cases have been known where interior lens and prism surfaces have become dimmed owing to the use of an unsuitable black color for coating the inner surfaces of the tube or mount.

Having given a sketch of the most important properties of optical glass, and of the principal defects to which it is liable, I now propose to give a very brief sketch of the process of manufacture, such as would be employed in making an ordinary light flint or similar glass.

We may appropriately begin with the raw materials for the glass itself; in the case of a light flint these would consist of sand, red lead, carbonate of potash, and a few minor additions. They are first weighed out accurately and they are then sieved and mixed together, the most meticulous care being taken to remove all impurities such as paper, pieces of straw, lumps of any kind, etc. The chemicals themselves are of the highest degree of purity obtainable in large quantities, and they are used in a reasonably fine state of division.

For the melting down of such a mixture or "batch" a special furnace and crucible are required. The furnace differs from other glass-melting furnaces principally in the circumstances that it is designed to take a single "pot" or crucible only, while most glass furnaces take four, six, or more crucibles at a time. The furnace is also specially arranged to allow of the easy entry and removal of the crucible. In one form, where direct coal firing is still employed, the furnace is simply a wide chimney-stack some 39 feet high, tapering from the base upward. In the chamber at the base two wide and deep grates are provided, while between them runs a large fire-clay block on which the crucible stands. The front of the furnace is left open, so far as the structure of the furnace itself is concerned, being merely built up temporarily with fire-bricks and clay when the pot has been put into place.

The pot itself is of peculiar shape. It is essentially a cylindrical vessel whose height is about equal to its diameter, and this is surmounted by a dome-shaped cover from which a wide neck projects on one side—the opening of this neck being the only access to the interior of the pot. When such a covered pot is "set" in the furnace, the mouth of the neck projects through the furnace wall, thus leaving the contents of the pot accessible from the outside, while they are completely protected from the smoke and gases of the furnace itself.

The production of the pot itself is a work requiring both care and skill, as well as the lapse of a considerable time, since these pots are built up out of wet, plastic fire-clay by hand, a small portion at a time, the lower parts being allowed to set to some extent before the weight of the upper portions is imposed upon them. The actual making of the pot may require a period of from eight weeks to four months, and after its completion a further period of at least four months and preferably six months is required for complete drying. During this time the temperature and moisture of the rooms in which the pots are standing must be regulated with great care in order to avoid risk of cracking during drying.

About a week before the melting is to be carried out, the pot is brought from the drying lofts and is placed in a large reverberatory kiln in which a fire is lighted and gradually increased, until at the end of a week a full red heat is attained. This is a delicate operation, because a single tongue of flame allowed to shoot from the grates and to lick the pot would inevitably cause either immediate or subsequent cracking.

A day before the actual melting is to begin, the furnace is heated up, and when it has reached the same temperature as that of the kiln in which the pot is undergiong its preliminary heating, the process of transfer takes

place. The doors of the kiln are opened and men clad in thick felt "armor" push in a large fork running on iron wheels. On this fork the pot is carried out of the kiln and is placed, as rapidly as may be, on the bed of the melting furnace, whose temporary front has meanwhile been pulled down in order to admit the pot. The pot being in position, the furnace front is built up, and then the temperature of furnace and pot is gradually raised.

When a bright red heat is reached, the first material is put into the pot. This is a small quantity of broken glass from a previous melting of the same kind of glass, and it is used in order to coat the fire-clay walls of the pot with a layer of molten glass in order to protect it to some extent from the erosive action of the raw materials which are next introduced. The "batch" when brought into the furnace immediately begins to melt, but at the same time the carbonates and other chemicals contained in it begin to give off gases, and the whole mass froths up violently. For that reason the materials have to be introduced gradually, a few shovelfuls at a time. At last the pot is filled to the level of the mouth with molten glass, but this glass is full of bubbles of various sizes; these are derived in part from the gases just mentioned and in part from the air enclosed between the particles of the raw material. These bubbles have now to be removed, and for this purpose the furnace is raised to a temperature sufficient to render the molten glass very fluid, so that through the "thin" liquid the bubbles may rise readily. For flint glasses this process requires no excessive temperatures, but for the harder glasses the heat is raised to the highest point which the pot and furnace can withstand.

After a period of this intense heating, which may last from twenty to forty-eight hours, the contents of the pot are examined; this is done by introducing a flat iron rod through the mouth of the pot and scooping up a small quantity of glass from the surface of the molten material. This forms a sort of sleeve on the rod, and is withdrawn from the pot with the rod and afterward pushed off and examined. These pieces of glass, known as "proofs," indicate the existence of bubbles. The proof may be full of bubbles, but provided they are large and well-formed, the glass-maker knows that they will pass off in a few hours; on the other hand, if the bubbles, though few, are very minute, he knows that many hours of further heating may not drive them off. Ultimately, proofs are obtained which are quite free from bubbles and then the strong heating is discontinued and the temperature is allowed to fall considerably in preparation for the next operation. When the glass has cooled down somewhat, the stirrer is introduced. This is usually a fireclay cylinder provided with a rim at one end, and a square hole placed axially in the same end. This is heated to bright redness in a subsidiary kiln and then taken up on an iron rod, held over the glass in the pot for a few minutes, and then gradually dipped into the molten glass with a slow turning motion. In spite of every care, this stirrer carries a number of air-bells down into the glass, and the pot is again shut up and heated to a higher temperature to allow these bubbles to escape—the stirrer meanwhile resting by its rim on the lip of the pot.

When these bubbles have passed off, the stirring rod or hook is introduced into the square hole in the stirrer, and by means of this rod the stirring itself is begun as soon as the glass has cooled down to the proper temperature. In this operation, the stirring rod,

which passes over suitable rollers, is moved about by hand in such a way as to cause the stirrer in the glass to describe regular circles having a diameter about two-thirds of that of the pot itself—the stirrer is never allowed to approach the wall of the pot. The whole operation is trying to the men engaged upon it because they are necessarily exposed to the strong heat radiated from the open mouth of the pot, while the actual moving of the stirrer becomes laborious as the glass cools.

The stirring operation is continued for a period which is limited by the gradual cooling and stiffening of the glass, owing to the loss of heat from the open mouth of the pot. Usually, after four hours, the pot is closed up and the glass reheated to soften it, and then the four hours' stirring is repeated, and this cycle may be gone through from four to six times. During the last period, the stirring is continued until the glass becomes exceedingly stiff and then the stirrer is either pushed to one side of the pot and left there in the glass, or else it is carefully drawn out of the glass, carrying a considerable mass of glass with it. As soon as this stage is reached, the front of the furnace is torn down and the pot is hauled out of the furnace by mechanical means and placed to cool on a suitable support in the open air—sometimes, indeed, water is poured over it to accelerate the cooling. The pot itself usually cracks in many places at this stage, but iron chains are wound round it to prevent it falling to pieces, while the glass is too stiff to flow out through the cracks.

The pot is allowed to cool rapidly in this way until the surface of the glass contained in it is hard enough to "ring" when struck with a light iron rod. Then the pot is pushed into a previously heated kiln in which it is allowed to cool down in the course of a further five or six days.

When it is cold enough to handle, the fragments of the pot are knocked away from the glass, which is usually found in large broken pieces, although sometimes the entire contents of the pot are found in one single piece. A glance at this glass reveals the most obvious defects and the pieces are broken up with a hammer in such a way as to isolate the worst parts. The better pieces are then examined, as well as their rough surfaces will permit, obvious defects are chipped out, and the rest of the pieces—now sadly reduced in weight from the original mass of the melting—are passed on to the moulding kilns. There they are heated and brought into the shape of blocks or slabs which can be ground and polished on edge or face and carefully examined. Pieces examined and selected in this way are sent back to the moulding kilns to be put into their final shape for use. That shape may be either slabs or plates, disks, or even pressed lenses or prisms.

At the end of all these operations the glass intended for the best optical work has yet to undergo the process of fine annealing which has been mentioned in connection with the elimination of internal strains. Even in this operation it is still possible for an otherwise perfect large block to fracture.

If my brief description of these processes has conveyed a correct impression, it will be seen that, although laborious and costly as compared with all other forms of glass manufacture, the production of optical glass of perfect quality in small or moderate-sized pieces is now a regular manufacturing operation which is carried out daily in at least three large works, one in England (Chance Brothers, of Birmingham) and one in France and Germany respectively.

Such optical glass is expensive compared with ordinary glass, but it is regularly supplied in practically unlimited quantities. But when we come to the question of producing the very large blocks and disks required for large telescopes, the matter is very different. Owing to the incidence of defects which are much more liable to spoil large pieces than smaller ones, and to the risks of fracture at every successive heating and cooling, both the difficulty of production and the cost of large disks rises very rapidly—considerably more rapidly than even the square of the dimensions. Up to the present, the largest disk made for telescope purposes is, I believe, 39 inches in diameter, but it is not certain that this is really a perfect piece. If there were a sufficient demand for it, however, and an adequate price could be paid, it is quite probable that even considerably larger disks could be produced, but to most minds the cost is prohibitive.

PRACTICAL ADVERTISING

About Booklets

SOME booklets are good, some good for nothing. But there is no necessity for abusing the booklet idea because one is bored with a lavish inpouring of badly printed booklets, whose particular sins are poor paper, freakish type, crowded matter, miserable display, and "bound" to beat the best set of nerves that ever essayed to open them. For uncut pages, smudgy cuts, and pages stuck together one-quarter their depth are trifles which well nigh unhorse the best disposition.

That there is a growing need for booklets in every business is undisputed, especially a business dealing in luxuries such as photographs. Public opinion needs stimulating constantly if we aim to provoke a steady demand for portraits.

Now, as to the kinds of booklets that are suitable for the photograph business.

If you have just opened a studio, issue a booklet well illustrated with choice specimens of portraiture and several scenes about the studio, giving a general description of the rooms, the equipment, the styles, and prices.

Once a year such a booklet should be issued by every studio, whether in village, town, or city.

Take Mr. Clare's advice to leave out all the "don'ts." Remember the day of "directions" for "what to wear and how to appear" is ancient history. People who can afford high-priced portraits are generally well dressed, and their costumes can be made to appear to advantage by skilful lighting, if you know how.

Again, to the class who can only afford ordinary grades of portraits, such directions are generally superfluous. because their limited means allow them only a small variety in dress.

But the following clause will offend neither high nor low, and covers the ground, viz.: "Please bring plenty of gowns, that you may have a good selection in your proofs."

How easy it is to ask a woman to bring several dresses. She considers it a compliment, and nearly always complies, accepting it as an honor to have "so much pains taken with her."

Then, when she arrives with her gowns, you can freely discuss tints and styles without giving the slightest offence. It at once proclaims you a

past-master in portraiture, that you know something about costumes as well as cameras.

From all parts of the country I receive scores of letters of inquiry—"How to do this?" "How to do that?" "How would you improve my pictures?" "What must I do to better my business?" "I understand photography perfectly, but wish to make better pictures, that my trade may grow by reaching a more appreciative class; what shall I do?" "Please tell me how to get up a really nice booklet," etc.

I wish I could personally visit a great many studios, staying a few days in each, answering questions about advertising, and showing how to put pictorial effects into their photographs—how to compose a picture. There are hundreds of little points about picture-making and business methods that could be answered so quickly if face to face with the inquirer.

The effective booklet must be worded very carefully—a little "froth" dashed off at random, or a little chit-chat, will not do. It must be writen by some one in intimate sympathy with the portrait business.

The writer of booklets on clothes-wringers, horseshoes, insurance, and "everything" can present only *general* arguments. But to have the booklet read right from the customer's standpoint requires a sympathetic pen wedded to the business.

Next, the illustrations. If you can not afford good half-tones, *well-printed*, use no illustrations at all. Because a poor or even *half*-good illustration is *positive* danger. The cheap appearance at once proclaims yours a *cheap* studio. (People of sense reason that if you put out such a botch of a booklet, your portraits will have the same character.)

One or two really good illustrations outweigh a volume of common cuts; and all the rhetoric at your command will not rescue the poor impression given by the poorer cuts.

The printing, too, demands the most exacting attention. There are plenty of places where artistic printing can be had that costs no more than an inartistic job.

The country newspaper and job office combined is no place to have a fine booklet printed. Place your order with a first-class concern offering a fine variety of type, border, rule, etc., and who make a specialty of half-tone printing. Bear in mind, please, that the best half-tone block made can be so poorly printed as to defeat all the good presswork in the solid or descriptive matter.

I have seen attractive-looking booklets (from the outside) which, upon opening, disclose the most beautiful typography fairly groaning with despair because the adjoining illustrations were flat impressions, smudgy, and disappointing, on expensive paper, too, which all the more emphasized the *caricature*. It is like wrapping a raw potato in a silk scarf or mounting a miserable print on immaculate vellum.

Attractive booklets can be arranged without illustrations, but the booklet that has "nice pictures" in it will do ten times as much good. Have no fear, the extra outlay will pay good dividends.

What is your opinion of the booklets that come to your desk? Do you not, by preference, read the ones that have good pictures?

Whatever your specialty, you should have special booklets upon the same ready for immediate use.

If babies' and children's portraits are a feature, you should have on hand a supply of pretty illustrated booklets all about babies, which you should mail to

every mother in your field. Watch the birth-list in the newspaper, and when baby is old enough—three or four weeks—mail a booklet to the mother with a nicely worded letter.

If brides' portraits are your hobby, send a well-illustrated booklet with brides' pictures, and a carefully considered letter to every lady in the land who has just taken to herself a husband. Consult the marriage list in all the newspapers in your field for data.

Again, should copying and enlarging be your specialty, watch the death list in the newspapers, and after a reasonable time—say three or four weeks—mail an illustrated booklet on enlarging and copying to the family, with the right sort of a letter, and so on with all branches of the business.

If the people thus addressed do not respond within a reasonable time send another copy of the booklet with a different letter. Do it the third time, if necessary; and if the business can be brought your way at all the third letter will generally bring it.

These letters, however, must be written in just such a way to do the work. If you haven't the skill to build such an epistle secure the services of someone who knows how to arrange "follow-up" letters.

This brings us face to face with the old argument, the sound argument, upon which all advertising is based, viz., *persistency*. Keep at it everlastingly until the people believe in you and your work.

A word about mailing your booklets: Always send in a neat envelope, sealed, and with a two-cent stamp. This will ensure its being opened and read by the person addressed, otherwise it will go to swell the waste basket.

Have *no* printing at all on outside of envelope; it then appeals to the recipients privately, and will command more attention.

Use good stock for your envelopes. No thin, manila bound, but an envelope of good weight, substantial, and of light tint, preferably white.

Besides the regular annual distribution of booklets, you will have occasion to use them very often to attract visitors. Keep your eye upon the society columns. Every visitor announced should immediately receive your best booklet. Keep your eye upon the community as well as your camera—a little long focusing outside the ground glass will develop many a dollar.

Summed up, a modest ad. in your newspaper, together with good booklets, issued at proper time, are strong levers to lift trade—IF the "goods" (your pictures) are all right.

This is the all-important question right straight to you. Are your goods all right? If not, all the booklets ever printed cannot help you. Remember, your work is your *best* advertisement.

It stands for or against you. See to it that your work is in your favor. Study picture-*making* — COMPOSITION, I mean. You'll certainly need it in the near future. There is a class of customers in every village, town, and city that will pay well for a picture, as well as a likeness of themselves. I am speaking from experience, having developed a high-priced trade upon "*pictorial*" qualities in my portraits — qualities that command $10 to $45 for twelve choice prints, without an argument.

I receive hundreds of specimens of portraiture from all parts of the United States, with inquiries relative to booklets and other mediums of advertising. But, alas! a large number of them lack the pictorial element that would place them high on the plane of picture-making. The chemical work is faultless, but the pictures lack the assistance of good composition to command high

prices and a reputation for you as an *artist* as well as a photographer!

Do you aspire to reach the top round of the ladder of photographic success? Then arm yourself immediately with a thorough knowledge of composition and pictorial qualities. Not only know about them, but know how to do it yourself!

This is an age of action, and those who dilly-dally along the wayside putting off their *composition study* will silently drift into the rear ranks.

Sound the alarm! Don't be satisfied to rest on your oars! "To rest is to rust!"

Many a professional photographer has quietly prepared himself along the art line, and has built for himself a prominent name and envious business; Many an amateur, too, whose average knowledge of chemicals and camera is way below yours, is making portraits, good ones, too, full of art feeling as well as likeness. Silently they are usurping your field. Will you stand idly allowing them to outclass you? Will you let their knowledge of composition walk away with your heritage?

Printer's ink will do much if backed up with good work. But have a care. There are changes going on; rapid changes. Look to your laurels. Study-Study composition and pictorial photography; put it in practice. Then your booklets and other ads. will win you a substantial patronage and an honorable place in the profession.

EIGHTH ANNUAL CONVENTION OF THE PROFESSIONAL PHOTOGRAPHERS' SOCIETY OF NEW YORK

THE New York State Society held its eighth annual meeting in New York February 7, 8, and 9. President Bliss is to be congratulated on the very fine program of good things that was gone through. It was not his fault that the New York, State and City, photographers did not attend in greater numbers. Many of the most regular attendants at these meetings are well-known photographers from other States, and who attend as associate members.

The most interesting feature of the Convention was the very fine display of color transparencies gathered together by Mr. B. J. Falk. It was a revelation of what is being done today in color photography, and surprised and delighted all who saw it. The work embraced landscapes, portraiture —home, studio, outdoor—and commercial subjects.

The best talk of the meeting was given by Alfred Stieglitz, who made his first speech before a gathering of professional photographers. He talked long and earnestly on art-photography. It was one of the most original and interesting talks photographers have listened to in a long time.

The members' print exhibit was smaller and of considerably less interest than in any former year, the color display, however, more than made up for this deficiency.

First Day

The meeting was opened by President Bliss and the morning was devoted to the reading of minutes, communications, and reports of the sections.

The afternoon session opened with demonstrations of making color transparencies by flashlight by B. J. Falk, who made several portraits and

answered innumerable questions on the subject. Then followed a demonstration of modelling in clay by Cartaino Scearrino, a sculptor, who made a clay model of B. J. Falk. J. C. Abel then gave his clever lecture on success in business and how to attain it, with many useful pointers made plain by the aid of a clever chart.

Second Day

Alfred Stieglitz opened and closed the morning session with his most interesting talk, and held his audience for an hour and a half. He has a rapid and abrupt delivery and made many telling points in quick succession.

The afternoon session was a continuous stereopticon display. W. H. Rau opened with his lecture on commercial photography, and showed a large number of slides, covering almost the entire universe. George F. Clifton, of Denver, a color expert, showed a very fine series of color lantern slides by the Ives Tripak and Dufay systems and was much applauded. Dr. Hirsch, official radiographer of Bellevue Hospital, gave an interesting display of radiographs, with much information concerning this branch of photography. Martin Justice, a painter, then gave his impressions of the display of color photography and compared it with painting. After a needed rest, the stereopticon was brought into use again, and H. A. Strohmeyer, of Underwood & Underwood, conducted us all over the United States with Presidents McKinley, Taft, and Roosevelt—especially the latter—on their various speech-making expeditions. Following Mr. Strohmeyer, there were lantern projections of transparencies from the exhibit and also the three pictures made by B. J. Falk the day previously.

Third Day

The morning session opened with a very interesting and practical lecture by Charles Truscott, of Philadelphia, on the interpretation of the negative. He showed many examples of the wide range and usefulness of the carbon process.

A new constitution, far from a model of perfection, was then read and adopted (printed elsewhere in this issue). The following officers were then elected for the ensuing year: President, B. J. Falk, New York; Vice-President, Howard D. Beach, Buffalo; Treasurer, F. E. Abbott, Little Falls; and Secretary, Charles Hallen, New York.

After the usual votes of thanks the Convention was adjourned until the next Annual meeting which will be held in New York in February, 1913.

FIFTH ANNUAL BALL OF THE PROFESSIONAL PHOTOGRAPHERS' CLUB OF NEW YORK

THE members of this progressive club are to be congratulated on the great success of their fifth annual ball. It was head and shoulders above any previous effort and was quite the social event of the New York Convention week, the members of which were the guests of the Club. Held in the grand ballroom of the Majestic Hotel, February 7, it was carried through in great style and thoroughly enjoyed by the big crowd present. The musical numbers preceding the ball were well chosen and splendidly

rendered by a first-class quartet of singers. The dancing was kept up until four o'clock in the morning.

The ball committee consisting of C. F. Becker, E. F. Foley, W. B. Stage, Chairman, Treasurer and Secretary, respectively, and Messrs. Robbins, Hammer, Chait, Stoller, Kaufman, Dobkin, Paley, Goodman, Stollmack, and Bernstein covered itself with glory and demonstrated what this Club can do. It established a record in photographic association entertaining.

NEW CONSTITUTION OF THE PROFESSIONAL PHOTOGRAPHERS' SOCIETY OF NEW YORK

Article 1. *Name*

Professional Photographers' Society of New York.

Article 2. *Object*

The object and purposes of the Society shall be the betterment of the profession, and the creating, fostering, and maintaining cordial relations between its members.

Article 3. *Membership*

The membership of the Society shall consist of three (3) classes:

Active Members, Professional Photographers who are owners and have establishments within the State of New York.

Associate Members, Professional Photographers not residents of the State of New York, who will be entitled to all the benefits and privileges of Active Members except that of voting.

Honorary Members shall be distinguished non-resident Professional Photographers whom the Society desires to honor, or members of the Society who by reason of their services to the Society or to Photography, the Society wishes to reward.

Application for Active Membership shall be made on prescribed blanks, and may be declined by the Executive Committee, if, in their opinion, acceptance will jeopardize the Society's best interests.

Application for Associate Membership shall come under the same ruling as for active membership.

Honorary members shall be nominated by a member, and if approved by the Executive Committee and receive a two-thirds ($\frac{2}{3}$) vote of those present and voting, shall be declared elected.

Article 4

The dues shall be, for Active and Associate Members, two dollars ($2.00) per year, payable January 1, and in all cases where the dues are not paid by January 15 the member shall be dropped from the roll without further notice. The dues of such members of the State Society who are members of Sections shall be paid by the Section and forwarded to the Treasurer of the State Society on or before January 15 of each year with the list of members.

Members whose dues are not paid by January 15 shall be dropped from the roll of Sections without further notice.

Honorary members shall be exempt from dues.

Article 5. Officers

The Officers shall be a President, Vice-President, Secretary, Treasurer and the Executive Committee. They shall be elected for one year at the Annual Meeting and take office on the first Tuesday in April following.

The Executive Committee shall consist of the Chairmen of all the Sections, the Secretary and Treasurer of the Society and four members of the Society who are residents of the city in which the annual meeting is to be held. These four members of the Committee to be elected by the Section in city in which the annual meeting takes place.

Article 6. Meetings

The city in which the next annual meeting will be held shall be decided by a vote of the members on the first day of the annual meeting, which shall be during the third or fourth week of February.

Article 7. Duties of the Officers

The President shall preside at all meetings of the Society.

The Vice-President, in the absence of the President or a vacancy in that office occurring, the Vice-President shall perform the duties of the President.

The Secretary shall attend all meetings of the Society and of the Executive Committee; keep minutes of the proceedings, issue all necessary notices, mail a printed copy of Treasurer's report with the report of the Committee on Audit to each member of the Society within thirty days after the close of the annual meeting, and a copy of such report with the findings of the Committee on Audit shall be entered on the minutes immediately following the record of the annual meeting. He shall subscribe all official correspondence and execute such business as he may be instructed to perform.

The Treasurer shall receive all moneys of the Society and shall deposit same as a separate account in a bank or trust company in his name as Treasurer. Keep proper books of account and pay all bills from the moneys so deposited when approved in writing by the Chairman of the Executive Committee and the Secretary.

He shall present a written report of the financial condition of the Society at the annual meeting and submit a final report and his books to the Committee on Audit within fifteen days thereafter, and if same are found correct he shall receive a certification in writing to that effect from said Committee.

He shall provide and keep a book which shall be considered one of the books of account of members' dues received, containing a detachable stub for the Secretary, one for the Committee on Arrangements and one to remain in the book; they shall be consecutively numbered and shall be sent to the above officers promptly.

He shall provide and issue to each member whose dues are paid, a pocket membership card of good quality and design, for the current year and which shall bear the same number as the stubs.

The Executive Committee shall have charge of all the affairs of and act for and in the name of the Society. Five members shall constitute a quorum. The Committee shall elect its own Chairman and shall have power to fill vacancies in the roll of officers to serve until the next Annual Meeting and appoint such Committees as shall be found necessary. The Committee shall appoint from its members five standing Committees.

First. A Committee on Sections consisting of three members.

Second. A Committee on Arrangements consisting of the Chairman of the Section in the City in which the next annual meeting is to be held, the four elected members, the Chairman of the Executive Committee, the Secretary, and the Treasurer.

Third. A Committee on Admission consisting of three members.

Fourth. A Committee on Discipline consisting of three members.

Fifth. A Committee on Audit consisting of three members.

The Executive Committee shall not contract for any expenditures in excess of twenty-five dollars ($25) more than is in the Treasury.

The Executive Committee shall have the power to expel any member charged with conduct which endangers or which may endanger the welfare, interest, or character of the Society.

Article 8

Amendments to the Constitution may be introduced at the first session in writing, but cannot be acted upon until the next session and can be adopted upon receiving a two-thirds vote of those present and voting.

Article 9. *Sections*

Branch Organizations to be known as Sections, composed of members of the Society who may so elect, may be organized within the State of New York with the object of assisting and promoting the welfare of the Society and handling questions of local interest.

Where such organizations are to use the name of the Society application for authority must be made to the Society through the Executive Committee, and upon its recommendation may be accepted by a two-thirds vote at the annual meeting.

All expenses of such Branch Organizations must be borne by the Sections themselves.

Article 10. *Constitutions for Sections*

The following constitution shall be the form adopted by each Section:

Object. The object and purpose of this organization shall be: 1st. The promotion of the general welfare of the Professional Photographers' Society of New York. 2nd. The betterment of the profession, applied particularly to that portion within the district covered by the Section and the creation of cordial relations between its members.

Membership. The membership shall consist of such persons as are members of the Professional Photographers' Society of New York, who, upon application, are elected. The application must be endorsed by two members of this organization and be presented to the Committee on Admissions. No application shall be balloted for except on the recommendation, by mail, to every member at least five days before the next regular meeting, at which the election or rejection by ballot shall take place, five black balls being necessary for rejection.

Officers. The officers shall be Chairman, Secretary-Treasurer and an Executive Committee of five, who shall consist of the Chairman, Secretary-Treasurer and three members, who shall be elected. The Executive Committee shall have the power to act for and in the name of the organization. The Chairman and Secretary-Treasurer shall be elected for the term of one year at the annual meeting. The three elected members of the Executive Committee shall be elected for the term of

three years and shall not succeed themselves. In the case of the first Executive Committee which shall be elected after this Constitution is adopted, the first one elected shall serve the full term of three years, the second a term of two years, and the third a term of one year. Thereafter one member of the Executive Committee shall be elected each year. A Committee on Admissions, consisting of three members, shall be appointed by the Chair. Should there be any vacancy in the Officers or Executive Committee, an election shall be held at the next monthly meeting to fill such vacancy for the unexpired term.

Duties. It shall be the duty of the Secretary-Treasurer of each Section to send a report of each meeting to the Chairman of the Committee on Sections and the date and place of each regular meeting at least one week prior to same. He shall also present a written report at the annual meeting containing a list of paid memberships.

Meetings. Each Section shall hold at least six regular meetings in each year, one of which shall be in January, and the annual meeting to be held the first Tuesday in April.

Special meetings shall be called by the Chairman on written demand of seven members, three days' notice to be given.

Quorum. —— members shall constitute a quorum.

Parliamentary Ruling. Questions as to parliamentary usage shall be decided by Cushing's Manual.

By-Laws

Article 1. *Order of Business.*

First Session

1. Opening Exercises.
2. President's Address.
3. Reading the minutes of previous meeting.
4. Report of Committees.
5. Resolutions.
6. New Business.
7. Appointment of Nominating Committee.
8. Adjournment.

Last Session

1. Reading of minutes of First Session.
2. Report of Committees.
3. Election of Officers.
4. Unfinished Business.
5. New Business.
6. Report of Treasurer.
7. Adjournment.

Resolution presented by Floyd E. Baker:

The Executive Committee shall send a copy of the Constitution to every member and to new members on payment of dues, together with a printed list of Officers, Members and Standing Committees for the current year.

THE maker's formula is probably the best that can be used for any brand of plate, but the modern plate will generally develop equally well with any good developer.

HYDROQUINONE developer is best made up with a hot solution of sulphite of soda or by dissolving it in a small quantity of alcohol, and then add the alcoholic solution to the aqueous solution of sulphite of soda, a little at a time with vigorous shakings.

WHEN copying full size, *i. e.*, the lens is used at twice its focal length, the *f* value of the stops is doubled; *f*/8 becomes *f*/16 and so on, and the exposure should be calculated accordingly.

TRADE NOTES

THE following letter, received by the BAUSCH & LOMB OPTICAL CO., speaks for itself. Mr. Kauffman is well known for his artistic photography, and has produced many prize-winning pictures.

113 South Main Street, Wilkes-Barre, Pa.
January 30, 1912.

BAUSCH & LOMB OPTICAL CO.,
Rochester, N. Y.

Gentlemen: It is a pleasure to me to say a word in favor of the Series Ic., 4.5 Zeiss-Tessar. The old story about the soap-box and spectacle lens is probably still alive; but if one is bent on doing pictorial work, as the demand stands today, the Series Ic. will do more to approach the goal than any lens I know of. In using a 5-inch focus on a 3¼ x 4¼ Graflex camera it will do wonders if the man behind it can do his part.

Sincerely,
R. S. KAUFFMAN.

GUARANTEED quality in photographic chemicals should be insisted upon by every photographer. CHAS. COOPER & CO., manufacturing chemists and importers, of 194 Worth Street, New York, have been manufacturing photographic chemicals since 1857, and their name on a package guarantees the contents as to purity, strength, and quality. If you are not receiving their monthly quotation list you should send them your name and address.

PROFESSIONAL photographers have no excuse for the stained finger-tips—so long the outward and visible sign of the profession—since SCHERING & GLATZ put on the market Dr. Steifel's Pumice-stone Soap, a preparation that removes easily and quickly all developer, varnish, ink, and other unsightly stains from the fingers. If you are "from Missouri," write to SCHERING & GLATZ, 150 Maiden Lane, New York, and ask for a sample, which they will be glad to send if you mention WILSON'S.

IN this day of increasing prices it is a positive joy to read of a reduction in prices. Our readers will be pleased to read of the big reduction, almost one-third, in the list prices of Hauff's well-known Metol, Ortol, Amidol, and Glycin developers. At the new prices the necessity of seeking a cheap substitute is gone forever, and the best goods are now also the cheapest. G. GENNERT, 24 E. Thirteenth Street, New York, and 320 South Wabash Avenue, Chicago, is the sole American agent for Hauff's developers.

How many photographers are pleased or even satisfied with their studio furniture. The general run of it is about as ugly and unsatisfactory as it can be. Those who are on the lookout for a new line should send to C. B. ROBINSON & SONS, Grand Rapids, Mich., for a copy of their catalogue of studio furniture. This line of furniture has been designed and made by a photographer for photographers' special needs and eliminates the many faults usually found in studio pieces.

WITH vignetting coming to the front again, the Ingento Vignetter with "as many movements as the human arm" is worth investigating. It is easily attached and removed from the camera, handsomely nickle-plated, and sells for $7.50. Ask your dealer to show you one.

THE TAYLOR-HOBSON COMPANY, of 1135 Broadway, New York, has just issued a handsome new catalogue listing the famous Cooke lenses in the latest models, also two series of a new high-grade European lens, to be known as the Cylex Series A and B. The Series A is a double anastigmat of symmetrical form, and the Series B, a convertible lens offering the advantage of three focal lengths in one mounting. The catalogue is got up with the usual good taste displayed by the Taylor-Hobson Co. in its advertising matter, contains much useful matter concerning the optical properties of lenses, in addition to detailed information on all the Cooke lenses and accessories. This is one of the catalogues that you should not fail to secure.

AGFA KAPSELBLITZ. Under this name an extremely convenient and portable form of flashlight is just being introduced by the AGFA COMPANY. The flash powder is contained in a triple tin case about the size of an ordinary walnut. It is sealed with a strip of adhesive plaster, which keeps the contents perfectly dry. On removing the plaster the two constituents of the flashpowder (the magnesium powder and the oxidizing chemical) are found separate in the case, the chemical combustant being contained in an inner capsule, which forms an additional preventive of the access of damp. The two are simply mixed together by shaking in the outer capsule, when the operator obtains the flashpowder in a perfectly fresh condition for use. The mixture is ignited by means of a strip of touch paper, a supply of which is contained in each package, and the result is an actinic flash which is highly efficient for flashlight portraiture. We should add that attached to each capsule is a thin strip of soft metal by which the capsule can be attached to any convenient support, and thus readily placed at a height necessary for the exposure. The "Kapsels" are supplied at the price of ten cents each, $1.00 per box of ten. They are a most practical addition to the many reliable requisites for flashlight photography which the Agfa Company have prepared and marketed within the last year or two.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor
MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors.

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK
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EDITORS' TABLE

THE following letter, received from a photographer who we know to be a member of the Professional Photographers' Society of New York, raises a question as to membership that sooner or later will have to be more definitely answered than it is in the present constitution of the P. P. S. of N. Y.

Editor of WILSON'S PHOTOGRAPHIC MAGAZINE.

Dear Sir: According to the Constitution and By-laws, members of the New York State Society must be owners or part-owners of a studio. What I would like to know is, can the newly elected Secretary of the Society legally act as such officer inasmuch as he is only an employee? A MEMBER.

The answer to the above hinges upon the meaning of the phrase "owner or part-owner of a studio." Our correspondent quotes from the old Constitution; the new Constitution, adopted at the last annual meeting of the Society, changed the word "studio" to "establishment." Under the new Constitution, therefore, active members are "professional photographers who are owners and have establishments within the State of New York. It is generally known that Mr. Hallen, the newly elected Secretary of the Society, is at the head of the developing, enlarging, and printing department of a photographic supply-house in New York. Hence the question of his eligibility to hold office. A definition of the words professional photographer and establishment is required to make Article 3 of the Constitution less ambiguous.

CONSIDERABLE opposition was raised against the adoption of the last paragraph of Article 7 of the above Constitution. It was passed in its original form. It reads: "The Executive Committee shall have the power to expel any member charged with conduct which endangers or may endanger the welfare, interest, or character of the Society." When it is considered that this Executive Committee consists of "the chairmen of all the Sections, the Secretary and Treasurer of the Society, and four members of the Society who are residents of the City in which the annual meeting is to be held, these four members to be elected by the Section in the City in which the annual meeting takes place"—it will be seen that the power of expulsion is placed in the hands of a few men, for with the exception of the annual meeting it is very unlikely that the Executive Committee will meet as a whole, the attendance is more likely to consist of the four city members, and however pure their motives may be, their actions are bound to be the subject of criticism engendered by the suspicion of a clique.

WE have received half a dozen copies of *The Implet*, the moving-picture newspaper, a bright and interesting weekly devoted to the moving-picture interests, and edited by THOMAS BEDDING, F.R.P.S., who is particularly fitted for such a publication. He is a born editor—he tells it himself, on page one, of number one, volume one, of *The Implet*. In addition to which he has been connected with the moving-picture since its first inception, and so is doubly equipped to make *The Implet* a force in the moving-picture world.

WE were sorry to learn of the death of H. H. Slater, of Fowler & Slater, Cleveland, Ohio, which took place on February 8. He will be much missed by photographers all over Ohio upon whom he had been calling for the last twenty-five years, and was ever a welcome caller.

SINCE when did photographers take to observing Lent strictly? In one of our contemporaries we read: "On the evening of February 24, the Philadelphia Entertainment Committee—working to raise funds for entertaining the members of the National Association in July—gave a stag smoker at the Studio of Elias Goldensky, where the photographers and their guests held carnival until the sma' hours. *Other entertainments will follow after Lent!*"

ONE HUNDRED PRACTICAL ADVERTISEMENTS

FOR

PHOTOGRAPHIC STUDIOS

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They cover the various seasons—Christmas, Easter, Confirmation, Graduation, etc., and can be used in series or as required.

Copied on a larger sheet of paper, they can be used as showcase cards, or on the back of postals for reminders.

These advertisements are all new and prepared with special reference to the needs of photographic studios.

Dignified Effective Productive

THE BOOK OF ONE HUNDRED READY FOR USE ADVERTISEMENTS, $3.00, POSTPAID

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FOR SALE BY

EDWARD L. WILSON

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ARTURA IRIS

the acknowledged standard of developing-out papers.

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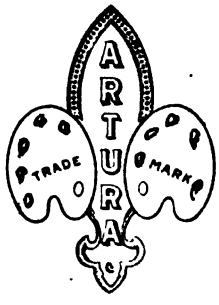

ARTURA DIVISION,
EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

All Dealers.

Vol. XLIX ✣ ✣ ✣ ✣ No. 664

APRIL, 1912

WILSON'S PHOTOGRAPHIC MAGAZINE

DEVOTED TO PHOTOGRAPHY MONTHLY: ILLUSTRATED

$3.00 A YEAR

SINGLE COPY, 25 CENTS

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OUR PICTURES:

Frontispiece Engraved from a Photograph by Alfred Stieglitz, New York. Engraved Supplements from Photographs by Gertrude Kasebier and Clarence White, New York, and New Photographic Studio, Berlin

EDWARD L. WILSON
122 E. 25TH ST : NEW YORK

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CYKO meets price competition by raising quality.

For every dollar skimped by competitors to lower prices, the CYKO factory spends two dollars to raise quality.

Other papers cannot catch up with CYKO. They are traveling in opposite directions.

Ansco Company

Binghamton, N. Y.

KATHARINA STIEGLITZ

By ALFRED STIEGLITZ, New York

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. XLIX APRIL, 1912 No. 664

A CODE OF CONDUCT

THE Board of Directors of the American Institute of Electrical Engineers has adopted a code of principles of professional conduct. The code covers the general principles by which every electrical engineer should be guided; the engineer's relations to client or employers; the ownership of engineering records and data; the engineer's relations to the public; and the engineer's relations to the engineering fraternity.

Here is an example that can well be followed by the professional photographers. It is a very fit subject for the Congress of Photography to discuss and draft recommendations to the National Association.

The present condition of the professional photographer's standing in the community is altogether vague and uncertain. In the public mind a photographer is anything from the man on the curb, who takes and delivers your picture in thirty seconds for a nickel, to Baron De Meyer, who comes from London to make portraits at a hundred and fifty dollars per sitting. There is a need in the photographic profession for a guide to the relation of the photographer to his client and the photographer to his brother photographer; a better understanding as to the ownership of the negative and the copyright in a picture.

With such a code in force we would know just what a professional photographer was, also a home portraitist and a commercial photographer. We would seldom hear of one photographer trying to buy up the services of another photographer's receptionist; copying and finishing of proofs could be eliminated; objectional canvassing methods and ticket schemes could be abolished or regulated.

There is no reason why such a code of conduct should not be adopted and enforced among all photographers who are affiliated with a State or national association, and there are many reasons why it should. We would like to see the matter taken up officially at the Philadelphia Convention.

CREATING NEW BUSINESS

We are living in an advertising age. The magazines and newspapers are full of it. Everything is advertised. Everybody advertises. Everybody but the photographer. He is content to sit around like Micawber and wait for something to turn up.

"Photography is a luxury and it does not pay to advertise luxuries," is the general excuse when advertising is proposed. The question of national or general advertising has been broached at several national conventions but so halfheartedly that it was never pushed beyond the talking stage.

It has remained for the Eastman Kodak Company to show the photographer how to advertise his business in a broad and extensive manner, and take up the work that should be done by the National and State Associations.

For the benefit of the photographer who has not seen this advertising that is being done with a view to increasing the demand for portraits, we would mention that the Eastman Kodak Company, realizing that the photographer's welfare is also its own, is advertising extensively in the big national magazines the desirability of being photographed in some studio for the benefit of future generations. Where each and every professional photographer comes in is in the line at the bottom of each advertisement which reads "There is a photographer in your town."

Here is a method of directing the public's attention to the need of a photograph followed by the suggestion, "There is a photographer in your town." It is just the sort of advertising that should be taken up by every organized body of professional photographers. Of course it would cost money, but it would produce results. Would not five thousand dollars of the present surplus in the treasury of the National Association, spent in this manner, yield infinitely better results to the members of the Association than the 3, 4, or 5 per cent it is now earning in a bank?

It will be argued that photographers who are not supporting the Association would benefit to the same extent as the paying member. Quite likely they would. So will other manufacturers benefit by any increased business that is created by the expenditure of the Kodak Company's stockholders' money.

We think that such an expenditure of the National Association's funds would meet with the approval of the members, especially those members who are seldom able to attend a convention and who receive a gilt button and an *Association Annual* as an actual and visible sign of their membership. It would make the "National" more National, and its membership could be made to include every decent and fairminded man in the profession. That is a matter for future action. The important thing for the immediate present is for each and every photographer to make the most of the opportunity offered by the creative advertising that is now being done on their behalf. The seed is being sown that can only be germinated in your studio. "There is a studio in your town" is being read by the people in every part of the country. Why not make it your studio? It will pay you to do good advertising now as it never did before. There are people going about with money in their pockets who are looking for that studio. Couple up your local advertising with the

national advertising and get the benefit of the increased demand that must follow good advertising.

Why is there so little money spent on photographs while such fabulous sums are spent on automobiles, pianos and graphophones every year in this country? You will find the answer in the advertising pages of any national popular magazine.

56 THE SATURDAY

Those old Daguerreotypes of grandfather and grandmother and Aunt Mary and then the quaint pictures of father and mother taken just after the war—money couldn't buy them from *you.*

Are you forgetful of the fact that future generations would cherish just such pictures of you?

There's a photographer in your town.
Eastman Kodak Company, Rochester, N. Y.

An advertisement in the *Saturday Evening Post* with a circulation of 1,725,000.

WHEN ARE PRIZES NOT PRIZES?

WE are prompted to ask the above question as a result of a demonstration we witnessed at a recent meeting of a photographic club. Four silver cups had been offered in competition for the four best sets of prints in four classes.

The judges invited to make the awards were two photographers of national rank and thoroughly well equipped for their work. The entries were few in number and below the average in quality.

The judges evidently had the correct idea of what a prize is: "That which is offered or won as an honor and reward for excellence or success, as in a contest, exhibition, or competitive trial," and as the entries in two classes out of four showed neither excellence nor success they made no award in these two classes.

When this decision was announced trouble began. The losers seemed to be unanimous in their objections to such a decision. They argued loud and long that as four prizes had been offered four prizes should be awarded, and seemed perfectly willing to accept prizes for work that competent judges had found to be unworthy of a prize. That the cup, medal, or diploma is only the evidence of an honor conferred for merit was not taken into consideration by these pot-hunters. They were out for the intrinsic value of the prize, and were quite prepared to take home and exhibit in their studios a prize awarded them because their work was not quite so bad as the other fellow's.

Clubs arranging competitions and offering prizes would do well to make it clear that prizes are not offered simply to be gotten rid of, but are intended to develop and bring out the best work a man is capable of, and that judges must be free to award or withhold. It is an insult to a judge's intelligence to ask him to award a prize to work that is obviously below the average of everyday work.

THE CHILD IN PHOTOGRAPHY

BY R. H. SCHUMACHER

HAND-IN-HAND with the advance of science we witness a constant unfolding of new possibilities in the realm of photography. It is, above all, thanks to the untiring efforts of the amateur, that the suggestions of the scientist are being utilized by the experimentalist, to produce those new and characteristic methods of representation, the scientific and educational value of which are incontrovertible.

At the present day more and more use is undoubtedly being made of these modern methods of illustration, in conjunction with the newest processes in developing; and for this there exists no more suitable field of study than that furnished by the ever-changing aspects of childhood.

The fact that a large number of amateurs still shrink from undertaking child-photography is to be attributed to an exaggerated idea of the difficulties connected with this work, rather than to a lack of interest in the subject itself. Nevertheless, in

spite of occasional happy results produced in this line, it is absolutely essential, in order to ensure success, that cameras be supplied with the best optical and mechanical equipment.

A disturbing background frequently suffices to discourage the photographer from undertaking a picture; for this reason it should be mentioned that a good photograph can be obtained even without an artistic background. Moreover, it should be borne in mind that a picture furnished with such an artistic background, even though possessing superior technical accuracy, cannot be said to be improved by the elimination of the natural surroundings.

If, on the other hand, a good photograph of a child amid its natural surroundings be produced without the help of an artistic background, the photographer herein achieves what may be termed perfection of expression. But if an open-air picture devoid of any such background be desired, the pictorial effect of the natural background must be considered in its relation to the child. For this purpose it is not sufficient to test the nature of the ground glass; neither, as in the case of landscape photography, should the effect of the colors be the only point considered in order to avoid the production of vague outlines. The more closely the natural background is brought in contact with the child, the more complicated will the photograph become. A satisfactory method of disassociating the child from its backgrounds is, however, obtained by means of reflection, and by focussing the light strongly on the child, thus obtaining a background of dim and uncertain outlines.

All these rules, of such fundamental importance for studio photography, should be equally closely adhered to in the case of open-air photography, if the object desired be to faithfully portray the essential character of a child in as far as it is possible for the camera to attain this ideal. Moreover, it should be borne in mind that true success in this domain is a product of genius—and for that reason to lay down more specific directions as to methods to be employed were both useless and impossible. The basis of success is individual treatment of the subject and patient study and experiment on the part of the artist. This is the path that the pioneer artists in photography have followed; the path that every artist must follow.

He who would attain success as a photographer of children must possess the power of seeing into a child's mind; he must thoroughly understand and sympathize with him, and be, in short, a true lover of children. The various methods by which a stranger can win a child's confidence are well known. I may say that there are certain definite rules to be observed and adapted to the individual circumstances, all of which are amply elucidated in the special literature devoted to the subject.

A friendly word—a song, or simply musical sounds, repeated at intervals —these are some of the commonest methods employed. And when the artist perceives the child's face light up with a gleam of satisfaction or express an attitude of intense mental concentration, he knows that the moment of psychological interest has arrived. But all the patience and effort in the world will not suffice of themselves to produce the desired result; the artist must be well trained to read into the mind of a child, and must possess a considerable power of suggestion. Above all he must succeed in gaining the child's confidence. Only when this is attained will he have entirely mastered his subject; and he

will succeed in reproducing the life, feeling, character—nay, that fundamental, palpitating element itself which constitutes the inmost individuality of the child.

How manifold are the opportunities of study presented him! The child in its mother's arms, in the cradle, at play in the grass—indeed, at all play which transplants the child into the wonder world. There is a deep meaning underlying children's play; and it would be more correct to say that in reality children do not play at all. So completely do they enter into the subject of their thoughts, be it a doll, a flower, a bird; be it suggested by sound or light or any other agent—that they never fail to preserve the reality of the situation. This fact in child-life it is which should supply the basis for the operations of an observant and discriminating photographer. It will supply him with all that is necessary, provided he sets to work simply; for a good pose is by no means the guarantee of a successful picture. The artist, too, must preserve his own individuality, while yet guarding against regidity and solemnity of manner, both of which qualities may be useful in the photography of adults but are out of place here. He must beware of the mistake of treating the child as a grown-up person in miniature, and constantly bear in mind the fact that the child lives apart in a world of his own. His thoughts yet dwell in the world of miracle whence he himself came, and the imprint of which he bears in his own personality.

At the present day the want is keenly felt of faithful photographs illustrative of "the child's love of life." There are plenty of detailed representations of various aspects of child-study; unfortunately, however, these, especially when found in contemporary journalistic and periodic literature, too often depict the little human animal instead of emphasizing the soft and appealing aspect of the child-nature. In other words, they proceed on the false educational principle of attempting to explain their weaknesses and faults, nay even of defending and glorifying them.

I wish, however, to except a series of photographs which depict in an exceptionally simple and pleasing manner the life and activities of childhood, and the awakening of the human soul. I have in mind the work of O. Pletsch, which is to be found in every home in Germany. It consists of about 400 pictures of child-life, and should be recommended as a help for every artist occupied with the study of children, above all for such as treat of the subject in series of pictures.

Besides these there are many other series of similar studies, and in many cases the power of interpretation and the methods of representation therein exemplified would merit publication and elucidation in book form. Of these the best and most universally known is undoubtedly the series published by the Director of the Photo-Secession and editor of *Camera Work*. It is therefore a matter of regret that Mr. Alfred Stieglitz has declined to issue a new edition of this series, a small part of which was published elsewhere some ten years ago. A charming photograph of his little daughter is, however available, and we are pleased to be able to reproduce it.

How wide is the range of suggestions furnished by the nursery alone both for the amateur and the professional! Could any parents desire a larger field for intercourse with their children, in which to occupy them, to guide their tastes and develop those traits which are essential for the shaping of character?

Might not a series of pictures entitled "The Child in the Sick-room"

serve to check or curb some native tendency to insubordination or wilfulness? Might it not even rekindle in a child's soul a love that was lost, or lend a last parting glow to the cheerlessness of old age?

Man is bound by an infinite chain to the past of his race and of his own existence; and in this chain the child forms the link that connects the past with the future. He who would rise on wings of faith to free himself from the trammels of the past and to create new forms of life will gain strength to ascend only from his knowledge of what lies behind him. He must ever bear in mind that our idea of reality is foreign to a child, whose own reality on the other hand corresponds to the visions of our imagination; for the child is the greatest mystery of all and embodies all other mysteries.

"Consider the lilies of the field." This might justly be the "motiv" of the artist in child photography. Let him consider the child as he considers the lilies of the field, as he considers spring itself when he would understand and enjoy it.

This work requires no astral or psychological background. For freedom and simplicity alone may recognize true innocence, that strong, creative force in the economy of nature.

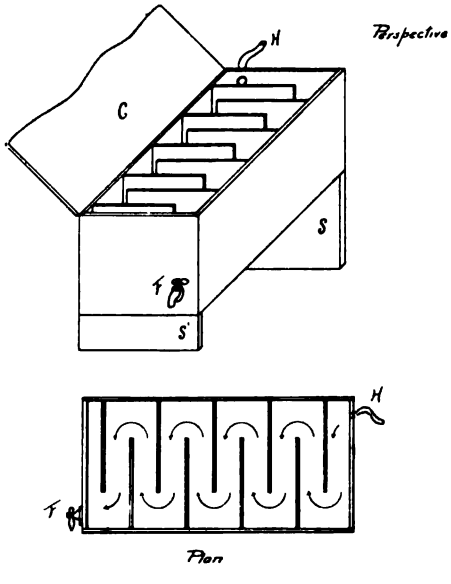
AN IMPROVED PLATE WASHER

BY A. E. SWOYER

THE ordinary plate washer supplied commercially has two defects—it soaks the plate rather than washes it, and the current of entering water flows from the bottom up. Since hypo solution is heavier than water, it naturally sinks to the bottom of the tank and is carried back over the plates by the action of the water flowing as mentioned above.

In order to do away with these difficulties, the writer has designed the washer shown in the accompanying sketch. This consists of a more or less waterproof box arranged to stand at an angle, so that one end is considerably lower than the other. In this box are fixed the plate supports, which are staggered as shown. An entry pipe *H* is provided for attachment to any faucet, the flow of water being regulated by the turn cock *F*. If desired, the hinged cover *C* may be added in order to protect the negative, as well as to enable one to use a comparatively low water pressure.

No special dimensions may be adhered to in making this box, but the cross pieces should be made large



enough to accomodate the largest-sized plate to be used; then plates of any and all sizes up to this may be washed at the same time without making any adjustment whatever. In general, the pressure of the water will be sufficient to hold the plates in position; if absolute security is desired a cleat should be nailed one-eighth of an inch in front of each cross piece on the bottom of the box, and another at right angles to it along the side—the resulting L-shaped slide will hold any size of plate rigidly.

Any desired water pressure may be maintained, if the box is provided with the cover shown, by adjusting the faucet from which the water is taken; If the pressure on the mains is insufficient to raise the water in the box to a high enough level to cover the tops of the plates, it is only necessary to shut off the turn cock *F* a trifle.

The advantages of this type of washer, in addition to its ability to take different sizes of plates without adjustment, are that the plates are in a constant current of running water whose action tends to remove any grit which may be upon the surface of the film and that, owing to this constant supply, it allows of thorough washing in about one-half the time required by the old method.

"THE INTERPRETATION OF THE NEGATIVE"

BY CHARLES TRUSCOTT

[THE following interesting and able paper was read before the Professional Photographers' Society of New York at their recent annual convention. Mr. Truscott speaks with the authority of an expert, and he suggests some thoughts that must command the attention and respect of every professional photographer who believes in himself and his profession.—EDS. W. P. M.]

Photography consists largely of a number of operations of exceeding nicety, each of which should be checked at the psychological moment. This requires both clear perception and ripe experience.

The first prerequisite is, of course, the ability to see not only what we are looking at (and none of us can see more than a fraction of that), but also how best to interpret it photographically and perhaps pictorially. This requires not only good eyesight, but also an ability to see with the mind's eye—imagination.

Eyesight is a very interesting study. No two people see alike. Looking at the same object, one sees color, another sees light and shade, another sees form, and yet another has the faculty of seeing pictures everywhere. This difference is partly due to personal equation; it is also largely a matter of training. For instance, the educated or trained eye of the Indian, the frontiersman, the sailor, the microscopist, the astronomer, and the artist sees much that is invisible to others.

Let us now consider another curious acquisition in eyesight. This may be called the photographic eye—the faculty of correctly appraising a negative. It is a long time since some of us had to proof a negative to test its printing quality. This faculty cannot be transferred by purchase of goodwill or conferred as a legacy. It is a marvellous power, the power to read

correctly and translate in the form of a mental positive the potential possibilities of the negative. Looking at the negative, we see not the negative but the positive. When showing a negative to a customer our attention is often called to the fact that the face is dark and the hair is light, which startles us, and we have to look to see if this is really so. The photographer has gradually become gifted with a sort of second sight, and is thus able, when looking at the negative, to see the finished print before him. The negative, however beautiful to the eye of the photographer, must nevertheless be interpreted in positive terms to become intelligible to the laity. The negative may be compared to the engraved plate. It is the mould from which a casting may at any time be made and multiplied.

It is rather interesting to note the ebb and flow in photographers' taste from time to time, as shown in the interpretation of the negative. In the early albumin days wet plate negatives were made very contrasty, the public demanding "clear"—meaning thereby excessively strong — photographs. Gradually, as the public taste improved, this gave place to brilliant soft effects. Then came gelatino-chloride, with its still greater possibilities of vigor; when suddenly, with the advent of platinum, the pendulum swings back to the other extreme. High-price photographers abandoned heavy panelled cards and introduced platinum prints in folders, and weak, smoky, gray prints were turned out and the public induced to accept them, because of their artistic merit.

Photographers could not interpret their negatives in this medium in vigorous notes, therefore the public were beguiled into admiring the softness of platinum. A great compass, being no longer possible, was supposed to be no longer desirable. Nevertheless many beautiful photographs have been made and are being made in platinum, and I shall be sorry to see it abandoned. It is a medium that should not be cast aside, because it has its uses and its beauties and will interpret some negatives and produce some effects better perhaps than any other medium.

In considering the number of tones in which a negative should be interpreted, manifestly the subject depicted should influence the choice; for instance, "a gray, foggy morning" will not need many tones to render it, whereas a heavy foliage scene, with bright sunlight shining at an angle to give long shadows, will require the darkest pigment your palette affords and then fall far short of the depth required, because in the landscape you have dark objects where no sun and little light illuminates it, and white objects in bright sunlight, thus giving ten times the brilliancy it is possible to obtain in any photograph or painting. Many persons of artistic taste seem to be incapable of enjoying a modern photograph if made in more than three tones, and yet they strongly admire a vigorous Daguerreotype or a steel engraving, and there are others who cannot tolerate a soft, dreamy photograph; but art is many sided, and we do well to keep the windows of our soul open, to cultivate the ability to enjoy beautiful photographs or paintings whether interpreted in three tones or thirty.

Some photographers seem better able to conceive than to execute — others have better executive talent than ability to plan and devise the work; but none of us are able to quite interpret up to our ideal, else our ideal would not be very lofty.

And now a few words about surfaces.

A dead surface, as you know, is a bad reflector, but a good absorber.

Give a surface a lustre, and in proportion as you do this, while you slightly lower the radiating power of white, you immensely increase the brilliancy of all colors, including black. This is why black and colored silks are so much more rich and deep than cotton fabrics. An artist paints a painting in oil: The oil in his color gradually sinks into his canvas. What is the effect? The black becomes gray the detail in the shadows is lost; but when he gives it a coat of oil or varnish the former depth and richness are restored.

It is the same with a photograph. If you wish a dead surface you must content yourself with less contrast, and in proportion as you increase the lustre of your surface, so you increase the possibility of more transparent shadows and more vigor in your prints.

Some printing processes are capable of furnishing a very limited range of values, such as salted plain paper and platinum, and are therefore incapable of translating very strong contrasts, like gelatino- and collodio-chloride printing-out papers, which will give very intense blacks as are also the direct positives, Daguerreotypes, ambrotypes, and tintypes.

Intermediate between these we have albumen paper, matt collodio-chloride, bromides, and gaslight papers.

Photography has never been richer in printing processes than it is today. When introduced they all made great pretensions to permanence, but how few have stood the test of time. However, although not permanent, many of them have their uses, for proofing, for reproduction in halftone, for advertising, and other temporary purposes.

Now we have reached the age of gaslight papers, and everything seems to be giving place to these rapidly made prints. Every kind of photograph is printed in this medium from the postal card to the most costly photograph. Of course we are assured of their permanency, because, forsooth, the negative with its fifty times heavier deposit is durable, therefore, every thing developed with M.H. is permanent. But time, the great innovator, will probably tell a different story, because one is on glass and the other on paper. Also because it seems to be physically impossible to entirely free paper of certain chemicals—silver prints from hyposulphite of soda and platinum paper from iron.

After all that has been said of the permanency of silver prints, prints on albumenized paper, when carefully made, seem to be more trustworthy than any made on gelatino- or collodio-chloride, no matter what misleading and confusing trade names they may bear.

Photographers who furnish photographs at low prices should not be expected to supply work possessing great lasting qualities; but when the very highest prices are paid, for what is called the highest grade of photography, and also when family heirlooms, relics, photographs of deceased loved ones, and historical records are desired, a guarantee of the very highest durability should be given and expected.

Permanency is, of course, a relative term, nothing being absolutely permanent. Every substance is subject to change and decay; but no photograph, it seems to the writer, should be called permanent which has little prospect of lasting at least a hundred years. Then, again, there are different kinds of permanency. Some things are fairly permanent when preserved in a glass case, as it were. The platinum print, for instance, is classed among the permanent photographs, nothing being more permanent than platinum

black; but, unfortunately, the paper after the iron has been removed is little other than blotting-paper, the size being entirely dissolved out. The consequence is, that, unless the print is preserved in a passepartout, dust and dirt will gradually destroy the image by begriming and defacing so as to ruin it, the paper being too tender to stand cleaning with a wet sponge.

The only photographs that can be truly called permanent are the Daguerreotypes, the ambrotype, the tintype, and *genuine* pigment prints. These are all on a basis above suspicion. By genuine pigment print I would include both carbon and gum prints, but would not include any pigment print developed on a bleached-out silver print, whether it be called ozobrome, bromoil, or bromo-seltzer.

The most durable of all photographs is either a ceramic or an insoluble carbon transfer on ivory, neither of which requires a glass for protection. They can be cleaned with hot or cold water whenever necessary, and the support being far more durable than paper or canvas, the photograph is as lasting as the ivory, and wedded to it, as it were, so as to become part of its very substance, as the ceramic photograph is fused into the substance of the porcelain.

The photographer whose only aim is commercial success will care little for his reputation except so far as it affects his business. The best biography of a man is said to be his work, and the conscientious photographer who bestows much loving care on his work erects a lasting monument to his memory.

Many photographers claim that the postcard photograph is ruining their business and to a certain extent is taking the place of high-grade work. If this is so, it would seem to me that the high-class photographer is unwise and even suicidal in interpreting his negatives in the same medium as the postcard. It is humiliating to have to admit that the high-priced photograph and the postcard are both made of the same easily worked material. A furniture designer would not execute an order for especially designed, costly hand-carved furniture in poplar or some other easily worked wood. A sculptor would not execute a portrait bust in plaster in preference to marble or bronze. Our patrons have a right to demand not only a work of art but that it be fashioned in some durable material, above suspicion.

The carbon process is the most beautiful, permanent, artistic, and plastic of all the printing processes. It is the only photographic process incapable of solarization and of reversal. There seems to be no limit—at least I have not been able to find one—to its wonderful capacity for registering tones of rare delicacy and subtlety, no other medium being known at this time capable of recording with *regularity* and *precision* from the faintest visible tint to the deepest shadow. In proof of which I will show you a negative in india ink which I made more than thirty years ago, containing four hundred and forty tints, and having such a wonderful range it cannot be duplicated by any other process. If carbon could be made sufficiently sensitive for use in the camera it would supplant both the dry and wet plate. The carbon process remains in the same stage of development it was thirty years ago. Not a single improvement has been introduced by the manufacturers of the material, nor will they listen to any suggestion of change to adapt the material to this climate. The waxed temporary support should have been long ago abandoned and a temporary support introduced free from wax

and its uncertainty which will hold the image under all conditions until assisted to part company. Such a support the writer makes and uses with entire satisfaction.

If the careful research and painstaking, earnest photographic endeavor had been bestowed on the carbon process which has been expended on other processes it would have been reduced to scientific accuracy long ago. The writer knows whereof he speaks, as he has accomplished this desideratum. We hear so much of the "bother" of carbon. What about the bother and uncertainty of Ozobrome, said to be simpler? It has twice as many processes, requires three times longer manipulation, and is ten times more uncertain. Carbon is said to be too slow; yet some photographers work gum, which is fifty times slower. In spite of this fact, good prints have been and are being made in this medium, it being a great favorite with the pictorialist. Personally I have never yet seen anything done in gum which could not have been better done in carbon, and with infinitely less labor.

I do not consider any pigment process perfect in which the superfluous pigment is removed from the side printed on, or which is on a support which has been subjected to chemical treatment.

The carbon process is unique in that the light both makes and fixes the image; in fact, it forms the image by fixing it. The simon-pure image of imperishable paint is transferred (glued) to the simon-pure support which no chemicals have tainted. It is also unique in that it is developed downward, not upward; that is to say, the developer lightens instead of darkens the image. In fact, it would be more correct to call it clearing than developing; because no forming of the image takes place, simply the washing away of extraneous unfixed material.

The single-transfer carbon process is considered both more simple and certain than the double-transfer, and so it is, when working the old way with the old material; but recent improvements have reversed all this and made double-transfer preferable in every way, the second transfer being simply mounting the trimmed print face down on cardboard, canvas, Japanese vellum, or ivory supports (supports which are not available for single-transfer), and they require no further mounting, being perfectly flat and with any desired margin.

Again, dispensing with the treacherous waxed temporary support permits of artist work on the finished print not possible on a film of wax, and this wax cannot be removed. With this new temporary support any amount of artist work in monochrome or color can be done before the final transfer, when the image will be above the work and give a perfectly clean and homogeneous effect.

This medium of interpretation may be called carbon de luxe, being the most elegant and facile process known in which to translate the values of any negative, and at the same time gives a more powerful means of artistic expression than any other known printing process.

In pigment printing we have not only the power of producing any degree of deadness and any degree of gloss, but we can make the whites dead and give the shadows an increasing degree of gloss in proportion to their depth, thus giving variations of surface that are very effective and pleasing, and obtainable by no other process.

Coming events cast their shadows before! The contention that the postcard is ruining the business, is analogous to the complaint of the coaching

profession when steam locomotives played havoc with their business. Tank development, repeating and multiplying backs, the improvements in developing papers, which lend themselves to the use of automatic developing machines, are revolutionizing the profession, automatic machinery making it possible to produce cabinets at $1.00 per hundred. These photographs are improving in quality every day, and prices will be quoted by the hundred instead of by the dozen—from $2.00 to $5.00 per hundred will probably be the prevailing price for machine-made cabinet portrait photographs.

What does it all portend? A revolution! It means not only that the tintype is knocked out of commission, but also that the $3.00 to $5.00 per dozen photographer must adjust himself to these new factors or find a new vocation. The ping-pong and postcard have come to stay, although the printed back may be omitted and more or less margin given at advanced prices; but the day for large prices, because of special mounts and multiple underlays, is gone. Tipped-on prints give a cheap, insecure, incomplete, unfinished appearance. The writer has known photographers who have railed against the dry plate, the ready-sensitive paper, the amateur, the kodak, and the postcard, instead of accepting the inevitable and moving with or in the van of progress.

Is the high-price photographer then, like Othello, to "find his occupation gone?" By no means. The ready-made clothing vender has not driven the custom-made tailor out of business; wood-carving machinery has driven all but the very best hand craftsmen out of the business; photo-engraving has played havoc with the wood-engraver, and photogravures with the steel-engraver and etcher, and yet there is still room at the top for those of exceptional skill. We are bound to admit that the outlook for the portrait photographer of moderate ability is not bright, unless he takes up machine-made photography, commercial, or newspaper work.

Let us recognize that in the economy of photography there is a place for the Brownie, the newspaper photographer, the amateur, the ping-pong and the postcard, and that all of them may bring grist to the mill of the high-priced photographer, because they may contain the only likeness of somebody's dear one who is no more; that while an 8 x 10 bromide enlargement may be had for 50 cents or less, and be quite satisfactory in its way and fill its purpose, $15.00 or $20.00 may be charged and willingly paid for one 8 x 10 carbon print from an enlarged negative and may be made well worth the price charged.

Prices of photographs were never so low, and yet high prices were never more willingly paid. For example, a customer will willingly pay for one dozen 5 x 7 carbon prints on Japanese vellum from $35.00 to $50.00. A dozen copies from the original negative might have been obtained for $5.00, but the reproductions are preferred. A curious question here arises. Which photographer's name should be placed on the reproductions: The name of the photographer of the original negative who would be satisfied with $5.00 or the copyist who gets $50.00?

I believe the day will come when the high-class photographer will make his charges at so much per print, perhaps from $25.00 to $500.00. He will probably desire a preliminary sitting to study his sitter; will expose three or four plates at another sitting, but requires an hour or more for that purpose; desires a brief sitting for the retoucher and one or more sittings for

the finisher. He will pay his operator a high salary, his printer and retoucher as much if not more, and his finisher, being a capable miniature or portrait painter, will be his highest-paid assistant.

In conclusion, let me again call attention to the claims of carbon as an interpreter of negative values, as an ally to the high-grade photographer in making his work distinctive, unique, of intrinsic and artistic value, and a medium of expression unquestionably superior to any other—its possibilities being enormous and almost unexplored and undeveloped. This process, with its wonderful possibilities, can never in all probability be utilized for automatic machine-made photographs. Do not be backward, therefore, in giving your patrons not only the best that is in you, but the best that your profession affords. Do work worthy of yourself and your profession, and you will be recognized as a master-hand craftsman if not as an artist.

HANDS

Ask a really careful photographer, and he will generally tell you that hands are the most troublesome objects to pose. Feet give little trouble, compared with hands, for here the question may so often be evaded. Feet, except sometimes in the case of children, are always at least covered, and in the more pictorial sex of sitters the shoes themselves are hidden, or all but hidden, by the dress. But not only are the hands not hidden; they are often an essential part of the beauty of a person or a portrait; and the rendering of them is a problem which must be honestly grappled with. I have found in my experience that, given a woman with well-modelled arms and hands, and in evening dress, the satisfactory posing of the hands is more difficult than the obtaining of a good poise and expression to the head and face. I do believe, however, that to attain a certain measure of success becomes easier every year, for people are becoming more and more used to photography, as we on our side are, I hope, becoming more tactful in our handling of them. For the chief obstacle in the past has been the nervousness of the sitter, produced in large part by her knowledge of the fact that the camera is not lenient toward conventional ideas as to the size of hands and feet. Thanks, I suppose, to our European origin, we look for small size in the extremities of a well-bred person, because it is work which makes hands and feet large, and aristocracy inclines to despise workers. Painters — those superior persons—have always been apt to work to conventional and flattering ideas, rather than to be truthful, and so have drawn hands smaller than fact would warrant. The photographer, thanks to the shortcoming of his lens, has always tended to err in the opposite direction. Hence it is that a sitter so often complains, and sometimes with justice, that "he always makes my hands so big."

The plan has often been, in many studios (including my own), to dodge the question by making head and shoulder portraits. But not only is this a rather cowardly and inartistic subterfuge; it is a bad business move, for a sitter with pretty hands will look for a half-length portrait, and if she be in evening dress she will demand it—or a full-length. It is possible to let the sitter do her own (uncon-

scious) posing, but it is also possible to tackle the difficulty boldly, arrange a beautiful pose, and let the sitter hold that pose, naturally and gracefully, until the exposure is made. Many successful examples of this have appeared in former issues of the MAGAZINE, notably some prints by Mr. F. G. Schumacher, which I have studied again and again.

Some sitters—and they are becoming more numerous—forget about their hands, and pose them naturally. When I get such a sitter I commence by ostensibly making an exposure for the head only, but in reality, making a half-length. I then arrange posed hands, and by a few words of explanation as to why I want one partly hidden, why I want the hands turned sideways, etc., can get the sitter to hold the pose naturally, without either tension or limpness, until the exposure is made. Nervous people sometimes severly try one's patience; for the moment they are arranged they want to pat their hair or rearrange a ribbon or do some other slight thing which only results in disarranging the pose. With such sitters the best plan, and one which generally works, is to put something into their hands. It may be a bit of work, a paper, a fan, or a flower—anything will attain the purpose, but it must be something suitable to the person and dress.

In regard to the size of hands there is much more variation, I think, than in the size of faces. Some day, perhaps, there will come a fashion of trying to translate the character in hands, just as at present, a certain amount of character is looked for in faces, and not mere prettiness. At present we must avoid giving too much prominence to the hands, and must keep their size in due subjection. The sitter can control this to a certain extent by the choice of her dress. Hands look much larger in contrast with dark material, being so much more conspicuous than when resting on some light-colored surface. With painters the plan often is to tone down the hands to a lower key. This makes them less aggressive, but in portraiture I have more than once faced the complaint that hands were washed before visiting the studio; the toned-down hands having suggested griminess to the sitter. Hands, or one hand, may be used very successfully to support the head—in sitting postures. Almost any difficult hand can be treated this way if the edge or the inside of the hand faces the camera. By slightly altering its position, or by turning the head, a part of the hand can be concealed, and the various possible arrangements of the fingers are numerous—each person adopting his or he distinctive one. A hand turned sideways or partly sideways to the camera is a good way of displaying a well-formed thumb holding a paper. The fingers of a hand are usually in repose when being photographed, but they are not necessarily arranged with geometrical precision. One may be a little in advance of the other in a half-closed hand; flexion of the wrist often improves a stiff-looking hand. There is a very bad pose seen sometimes when a full face is taken of a person seated in an arm-chair. The sitter's arm rests along the arm of the chair and the hand hangs down in front, as though broken at the swist. Hands may often be partly hidden in the dress.

The real first cause of the idea of photographic big hands is surely the studio lenses which have been used. When we push our cameras to within six feet of our sitters we must expect to get distortion. When we get down to longer focus lenses, perhaps of the telephoto type, we shall soon find that "big hand nervousness is a thing of the past."

Straightening Prints. When prints are taken from wash water blot off the surface moisture and lay out on sheets of waxed paper to dry—in a slight draught if possible. In general, they dry without curling very badly.

Have three clean blotters, a little larger than the prints, and have them dampened evenly—usually those that were used for a few minutes—when they will be right—place two prints alternatively with three blotters under a heavy sheet of glass for a few minutes —when they will be found to be perfectly flat, and the dampness almost imperceptible.

Place instantly between clean dry blotters and stack under good pressure; in a short time they will be dry and smooth. The knack consists in employing just as little moisture as possible to straighten the prints, so that they will dry again at once.

By this method all rough handling that might cause damage is avoided.

All papers can be treated in this way, platinum requiring surprisingly little moisture, but collodion somewhat more.

Platinum Toning of Bromide Prints. The following bath will give excellent sepia tones with bromide prints made on any make of paper. It is not suitable for gaslight prints:

Potassium chloroplatinite	12 grains
Mercuric chloride . . .	6 grains
Citric acid	54 grains
Water	6 ounces

It is necessary for the bath to be freshly made up, preferably from stock solutions. The high lights become slightly stained, but this will not detract from the effect. If a colder sepia tone is required, with absence of the staining referred to, add 30 minims 10 per cent. solution potassium to the formula. The prints should be well washed after toning.

Making Solutions. In making up photographic solutions dissolve the ingredients in the order named in the formula. When using dried sodium sulphite stir the water as you drop the chemical into it. If not, the soda is likely to harden and needs very vigorous shaking to dissolve it. If the water is kept in active motion when chemicals are added they dissolve more readily and there is not likely to be any sediment at the bottom.

Retouching Fluid. You can make a good retouching fluid by mixing 30 grains of powdered rosin with 1 ounce of oil of turpentine. Apply to the places to be retouched by dipping a wad of absorbent cotton in the liquid and dabbing the negative gently. Let the plate stand for half a day to dry. If not much retouching is to be done to the plate use powdered pumice-stone to rub over the places. This will roughen the film enough to make a good "tooth" for the pencil.

Protecting the Fingers. To prevent staining of the fingers in printing and developing gaslight prints use rubber finger-tips or else get a small box of Nostane, which may be rubbed on the hands before beginning developing, prevents staining and washes off readily. A very convenient article for use in developing plates is a thimble made with a sharp prong at one side and extending about an inch beyond the top of the thimble. This point is slipped under the plate, and one can thus raise the plate from the developer without putting the fingers in the solution.

By FRANZ ROMPEL, Hamburg, Germany

By GERTRUDE KASEBIER, New York

By CLARENCE WHITE, New York

By NEW PHOTOGRAPHIC CO., Berlin

By NEW PHOTOGRAPHIC CO., Berlin

By HUGO ERFURTH, Dresden, Germany

By GEO. H. PAINE

By BRUNO WIEHR, Dresden, Germany

By ERNST MÜLLER, Dresden

By L. O. GRIENWALDT, Bremen

By KURT SCHOLLENBERG, Hamburg

By ELLY RINTELEN

By PAUL MÜSSE, Iserlohn, Germany

STUDIO OF CHAS. GERSCHEL, PARIS

THE NATIONAL CONVENTION

PHILADELPHIA, City of Brotherly Love and the second city in the Union, will be the meeting place of the Thirty-second Annual Convention of the Photographers' Association of America to be held July 22 to 27, inclusive.

It has many things in its favor as a photographic convention city. It ranks high photographically and many used for a photographic convention. The two views herewith will bear out our statement.

Another advantage of Philadelphia is its nearness to Atlantic City. The Executive Committee was not slow to see the opportunity offered and have arranged an Atlantic City day, when the entire membership of the convention will be transported to the famous

OFFICERS OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

Second Vice-President	Treasurer	President	First Vice-President	Secretary
WILL H. TOWLES	L. A. DOZER	BEN LARRIMER	CHAS. F. TOWNSEND	MANLY W. TYREE

of its photographers have national and international reputations. Some of its studios are famous.

The convention hall, Horticultural Hall, is in the very heart of the city, immediately opposite convention headquarters and within a minute's walk of the railroad stations and hotels. The building is perhaps the finest and most convenient that has yet been

boardwalk, fed, entertained the whole day long, and returned to Philadelphia by special trains without a cent of expense to themselves. We imagine this will be the most popular day of the convention week. Apart from this the local entertainment committee is busy with plans for some unusual entertaining.

The picture exhibit this year should

be unusually good. Members are invited to send in two of their best pictures. These will be examined by a special jury and all pictures that fail to come up to the standard will be excluded; this will guarantee the quality of the display.

One of the features of the convention will be a school of modern printing processes, such as bromoil, oil printing, and gum-bichromate printing, to be demonstrated by R. W. Phillips and Walter Zimmerman, of Philadelphia, and W. H. Kunz, of Boston.

In regard to the picture exhibit, members who intend to exhibit should advise First Vice-President Charles E. Townsend, Des Moines, Iowa, of their intention, so that he may make the proper space reservation. The pictures are to be delivered in Philadelphia on or before July 15.

Members of the association can help the Treasurer very much and save themselves the inconvenience of waiting in line at the convention hall door, by paying their dues for 1912 in advance. The dues are $2.00 for old or new members of the association who are also members of a State Society affiliated with the National. Photographers who are members of the National but not members of an affiliated society pay $3.00 yearly dues, and photographers who are not members of the National Association

HORTICULTURAL HALL, PHILADELPHIA, PA.

or any affiliated society pay $3.00 dues and $2.00 entrance fee. The Treasurer is Mr. L. A. Dozer, Bucyrus, Ohio. In sending personal checks add ten cents to cover collection charges.

GRAND STAIRCASE, HORTICULTURAL HALL, PHILADELPHIA, PA.

PHOTOGRAPHY FOR THE ADVERTISER

THE camera has come into its own in many fields, but the advertiser, up to date as he is, has not availed himself of it so thoroughly as might have been expected. Elsewhere in publication work photographic methods have gained a great ascendency, but, except in the form of the circular, the photographic "ad" has been slow in coming. The poster is almost untouched by photography, and the advertisement in the periodical, which is the third and greatest of the advertising media, still remains to a great extent independent of its aid.

There are good reasons for this slow development. In the case of many periodical publications the "line" drawing has evident advantages. Although half-tone reproductions are now excellently carried out in most of the magazines, and in very many of the weekly journals, the paper of the daily and the local press is often of

too poor a quality, and the methods of printing are too rapid to do full justice to a block made directly from the photograph. Moreover, in largely circulated papers the making of electrotypes or casts of the block—often from other electrotypes — which is necessary when the same form of pages has to be run concurrently on different presses, does not tend to improve the half-tone image, about the fineness of which, naturally, the advertiser is anxious. Improvement is a matter of time.

Is there a Future for the Photographic Poster?

In poster work, again, there is a strong demand for color. Nearly all posters are now produced on the lithographic stone from the draughtsman's designs. There are exceptions, however, and processes involving photography are in use, especially for smaller work. There was a vogue some time ago for posters executed in relief, and in this case a method of photographic reproduction proved very effective. The original was modelled in plaster or other material, and photographic reproductions in half-tone were made, giving a startling effect of relief. One such had a good deal to do with the popularity of a certain breakfast food.

But in considering poster designing it must be remembered that the poster as we know it today is of surprising youth. Elsewhere than in Paris, which is the place of its nativity, it is a growth of the last twenty years, and we cannot help thinking that with improved methods of printing, side by side with a realization of the artistic possibilities of photography, or of photography combined with free-hand design, there is a future for photography on the hoardings. The excellent poster of the recent London Salon, embodying one of Mr. Bertram Park's pictures, will be fresh in the public recollection.

Both advertisers and guardians of civic beauty are calling out for more art in the poster, and, as the advertiser very well knows, the more artistic the poster, other things being equal, the greater will be its advertising value. Already some of the greatest modern artists have thought it no condescension to put their brush or pencil to the sweet uses of advertisement and decorate the "poor man's academy." Fred Walker's "Woman in White," and Sir John Millais's "Bubbles" will be remembered, although the latter was not originally painted to advertise soap.

The Illustrated Advertisement

With regard to the function of illustration, the advertising world is divided in opinion. While everyone admits that a catchy illustration is becoming of supreme value in an advertisement, some claim that the duty of the illustrator is to attract attention, and not necessarily to illustrate the goods, while others think that the picture must be an illustration of the goods offered. A classical figure may please the public eye, but it may not associate itself in the public mind with a fountain pen. The illustration of the thing advertised is the more generally practised, and nowhere to a greater extent than among the advertisers of photographic goods; indeed, we have it on the authority of an advertising expert of wide experience that the article which has been given more attention by advertisement illustrators than any other is the camera.

Where the Photograph Scores

It is as a demonstration of actuality that photography comes in. One of the first of the photographic advertisements boomed a certain food for infants, and although, when reproduced by coarsely screened half-tone blocks, it was less pleasing than the creation of a draughtsman would have been, its advertising appeal was all the greater. For it showed a real baby, and, after all, the photograph is inherently truthful, whereas there is no guarantee that the artist would not draw upon his imagination.

Not all things, however, are advertised by photographs of fat babies, and the finding of suitable models is a difficulty. The frequency with which a pretty girl uses a dentifrice, or works a typewriter, or goes into ecstasies over a jar of jam, has some psychological significance behind it. A hesitating purchaser may be brought to a right decision because he subconsciously associates the article in question with pretty and pleasant things. At the same time, wavy-haired and pointed-chinned insipidity will not do. The great desiderata in a model are character and intelligence coupled with refinement of face and elegance of bearing. In America, where advertising by photography has forged ahead, at any rate, in the magazines, a graceful but not goddess-like lady, photographed in travelling costume established the reputation of one railway company for luxurious travelling. (In America, by the way, railway advertising is chiefly concerned with pointing out the comfort of travel; in this country, with the views *en route*. We hope to have something to say about the possibilities of photography as a factor in railway advertising in a subsequent article.) Also in America, a photograph of a picturesque old washerwoman, who would be seized upon with avidity by the travelling picture-maker, has given a tremendous boom to a certain soap.

Points in Pictorial Advertising

The first principle of advertising is said to be repetition, and although this is a matter for the advertising agent rather than the original designer, there is one phase of it which is worth while bearing in mind. Some of the most successful advertisements have been a series of poses of a single figure. The colored chef who points out the merits of a certain sauce never does it in quite the same way in two issues together. There is repetition of essentials, coupled with a variety of attitude or expression. And it is possible that a series of photographs around a central idea might appeal to an advertiser, whereas a single picture would fail to interest him.

The cardinal thing to be regarded is simplicity. The over-elaborated design no matter how well executed, does not succeed as an advertisement. The poster has to be viewed from a distance, perhaps from across the street; the magazine advertisement has to catch the eye during the hurried skimming which the reader devotes to the pages. It is obvious that boldness, simplicity, largeness of figure are required. A salient point or a suggestion may be more useful than a finished composition. The background should be quite plain. Detail should be suppressed. One of the most successful of cycle advertisements only shows the handle-bar and a bit of the front wheel. For the sake of further simplification, it is sometimes an advantage to combine the photograph with a hand design. Perhaps a friend who is clever at this kind of thing will collaborate. An important point is the

accompanying lettering, and on this subject an article published in the last issue may be studied with advantage. What applied to the central design applies equally to the lettering —it should not be too elaborate or involved. Many an advertisement has been spoiled by inharmonious type. We have seen photographic designs in which a blank space has been left for the display, but if it is at all practicable, the designer should do at least the larger lettering himself.

Subjects and Suitability

A temptation that will come to the photographer, especially if he has failed to realize the sublime, will be to resort to the humorous and grotesque, sometimes even to attempt the inverted advertisement which seems to cry down the thing it advertises. A successful instance is the poster showing the hurried exit of the Follies' audience, but obviously this kind of thing would not apply to soup, and really it is so seldom successful that it is better avoided. Restraint should characterize excursions into the grotesque and the humorous, and it should not be forgotten that there are people who are unfavorably influenced by the association of a particular article with a grotesque figure or idea. For the same reason, the introduction of animals, especially into advertisements of foods, intended for human consumption, should be avoided. On the other hand, the "jolly" has very great advertising value. One likes to see the jolly wagoner drink his cup of steaming cocoa, and the photograph of a couple of round-faced youngsters on a snowy day snowballing or blowing vigorously into their mittened hands is a better advertisement of some medicament for chapped and irritated shin than any number of ladies holding out hands the soreness of which is palpably overdrawn.

Ideas at a Premium

The scope for the man of ideas in advertisement designing is illimitable. Plus a camera, he should be a factor to be reckoned with. Business is so keen, the demand for new ideas is so strong, that the advertising agent of all people cannot afford to close his doors even to the most casual amateur. Indeed, if the hand which the amateur has had in the making of big advertisements were disclosed, it would probably surprise most of us. We believe we are right in saying that the original "Sunny Jim" was designed by a girl for a friend who was writing the jingles, neither of them being connected directly with advertising work, and neither of them aware that they were opening a new chapter in the strenuous history of modern advertisement.

Not so many years ago the cult of the poster extended sufficiently to bring into existence a great number of poster collectors. The very existence of these enthusiasts appeared to have had a stimulating effect on the poster artists themselves, who perhaps realized that their work would not only be seen by the public, but also competed for and hoarded up in private collections. Poster collecting, however, does not appear to have flourished greatly of late.—*Amateur Photographer.*

In order to realize a perfect tonality the values have to be correct. Values is an oft misquoted word. It means nothing more or less than the relations of the tonal gradations (of the various objects represented to each other).

THE CHEMISTRY OF THE TONING OF BROMIDE PRINTS

BY CHAPMAN JONES, F.R.P.S

THE image in a bromide print that has been properly prepared consists of metallic silver and nothing else. It can therefore be changed only by either adding to it or replacing it. Advantage is often taken of the "reducing" power of the metal, that is, its power to take some of the constituents from compounds that contain these constituents in full quantity and can exist with less.

The method of toning with copper may be considered as an example of a general method. Its ferricyanide is a compound of the metal with iron, carbon and nitrogen. Its ferrocyanide is a similar compound, but it contains a smaller proportion of iron, carbon and nitrogen, and it is a brownish-red or chocolate color. If the ferricyanide can be obtained in a suitable solution in which the ferricyanide is not soluble, and if metallic silver can reduce the ferricyanide to ferrocyanide by removing some of the iron, carbon and nitrogen from it, then it is obvious that by applying the solution of the ferricyanide to a bromide print, wherever the silver of the image is it will cause the production and deposition of copper ferrocyanide, which being red will change the color of the image. These conditions do hold in the case of copper when it is used according to the usual formulæ. In this case the silver of the original image has added to it the iron, carbon, and nitrogen that it has taken from the copper ferricyanide, and also the red copper ferrocyanide, so that the resulting image consists of this last salt with either silver ferro- or ferricyanide, it is not easy to determine which.

Iron and uranium are similar to copper in forming soluble ferricyanides and insoluble ferrocyanides. Their ferricyanides are attacked by metallic silver, so that they also are available for toning purposes. It may be observed of all these methods that the ferricyanide is not generally prepared separately, but that a suitable salt of the metal is mixed with potassium ferricyanide, the mixture giving the ferricyanide desired. If the silver salt interferes by reason of its color (it is yellow or red), it may generally be dissolved out by a plain solution of hypo. Then, if the action has been complete, there remains an image that consists only of the ferrocyanide of the new metal.

Vanadium is sometimes used in formulæ of the character just described in order to get a greenish color. It is not possible to say exactly what takes place in this case as the ferro- and ferricyanides of vanadium have been very little investigated.

The chemistry of mercury toning is analogous in character to that described for copper, but the first product of the action being white is useless for toning purposes. A second operation is therefore necessary to change the white substance into a product of the desired color. When mercuric chloride in solution is allowed to act upon the silver image, it combines bodily with the silver and forms a double chloride of silver and mercury ($AgHgCl_2$); this is the substance of which the white image consists. If this is acted on by sodium sulphite or by hypo the image that remains consists of metallic silver and mercury, but only a part of each of the metals, the rest being dissolved out. If ammonia is used, some of each

of the metals is removed, and some of each remains but not in the metallic condition; the image consists of complex compounds of silver, mercury, nitrogen, hydrogen and chlorine, of uncertain and variable composition and considerable instability. Other alkaline substances, such as caustic soda and lime-water, are uncertain and incomplete in their action, converting a part of the metals into oxides.

The hypo-alum bath is probably simple, so far as its effect is concerned, but highly complex as to the course of the changes that produce the effect. It is not possible to speak with certainty as to the chemistry of this method of toning because it has been very little investigated. But the result seems to be that some of the silver image is dissolved away and that some, or perhaps the whole of what remains, has sulphur added to it, converting the metallic silver into its sulphide. When the bath is prepared a copious deposition of sulphur takes place. For practical purposes it is sufficient to regard the bath as a source of sulphur, not the sulphur that is separated when the bath is first prepared, but as being ready to slowly yield more sulphur to any substance that can easily combine with it. Silver is specially liable to combine with sulphur. The actual substances formed in the solution that yield the sulphur are probably many and the changes complex, and it would be out of place here to speculate as to the possibilities of the chemistry involved.

If it is desired to tone by means of sulphur, that is, by converting the silver of the image into its sulphide, the more certain method is to first add to the silver something that it will combine with much more readily than sulphur, and then by a second operation to exchange this something for sulphur. These two changes will often take less time than the tedious hypo and alum method, besides being more definite and simple from a chemical point of view. A powerful oxidizer, such as potassium bichromate or potassium ferricyanide, is used, generally, with a halogen compound, such as potassium bromide or hydrochloric acid, the selection of the reagent being merely a matter of convenience—avoiding stains, frilling, etc. When the metallic silver has been converted into a corresponding compound, it is treated with a dilute solution of sodium or ammonium sulphide, and this at once and completely effects a double exchange, the sodium or ammonium combining with whatever the silver was previously combined with, while the silver and the sulphur of the sulphide join together.

A delicate softness of definition (spherical aberration) can be given by any portrait lens by separating the elements of the back combination.

The lens that gives good definition at the largest aperture is said to be more rapid than one that requires stopping down to obtain the same degree of definition.

The distance between the lens and an object on one side, and that between the lens and the corresponding image on the other, are called the "conjugate foci."

If the single combination of an anastigmat or R.R. lens works at double the focal length of the complete lens, the *f* numbers of the stops are doubled, and the exposures quadrupled.

The R.P.S. standards of lens apertures are *f*/4, *f*/5.6, *f*/8, *f*/11.3, *f*/16, *f*/22, *f*/32, *f*/45, *f*/64. These express fractions of the focal length of the lens, and the relative exposures necessary are 1, 2, 4, 8, 16, 32, 64, 128, 256.

PHOTOGRAPHERS, NEWSPAPERS, AND THE COPYRIGHT LAW

THERE has been a lot of discussion recently at the various conventions regarding the copyright law and the value of copyright to the photographer.

The point we wish to bring out here is the woeful ignorance displayed by most photographers regarding the new copyright law, and again, how few realize the value of the protection given by copyright.

Almost every photographer is visited at times by some man or woman of national or local prominence and, as the newspaper today is nothing unless filled with portraits and illustrations, the photographer should protect his handiwork and add to his income by copyrighting all pictures that have any appearance or show of future value.

Now, mind you, you have no right to copyright any photograph made by you in the ordinary course of business, and for which you receive your regular rate of pay, unless you obtain the permission of the party in question to copyright the photograph in your own name. The right of copyright lies in your customer, not in *you*, in such cases. But in cases where you invite a person in to be photographed without charge or at a reduced rate with the understanding that this rate is made because the customer is a public person, then you have the right to copyright your work. But, in any case, it is advisable to have it thoroughly understood between you and your patron that you are going to copyright the picture.

Now, any photograph that is not copyrighted according to the law can be reproduced without your permission or without credit being given to you. Except in the State of New York, the non-copyrighted photograph of a private person can be reproduced without permission, even for an advertisement.

Newspapers, of course, generally rely upon the local photographers for portraits, but they can and do get them, too, direct from the parties concerned. If these parties are much in the public eye, it is annoying to see *your* photograph reproduced in the papers without any credit being given to you.

You can avoid this by copyrighting all photographs that would seem to have any value, as already mentioned above.

It costs you only fifty cents for each photograph you copyright.

That fifty cents may be worth a whole lot of money to you later, for if any person, newspaper or magazine should reproduce any picture of yours, which is properly marked, *without your permission*, even if they are polite enough to put your name and copyright under the reproduction, they can be sued by you for damages and are also subject to a fine and imprisonment for wilful infringement of your copyright.

Photographers should not overlook the last part of that sentence. It means an extra grip on the man or editor who has infringed one of their copyrighted photographs and is inclined to be slow about making settlement.

The new copyright law protects photographers fairly well, except in the case of newspapers. From newspapers, the maximun amount of damages you can collect in court is $200, the minimum being $50. This seems unfair, especially as newspapers are the worst offenders. For magazines, calendar publishers, etc., you can get up to $5000 if you prove your case. Of course, you can also get an injunction restraining further infringement, and

the fact that some one should wilfully reproduce one of your copyrighted photographs, without mention of your copyright on or below the reproduction, *does not invalidate* your copyright in that photograph.

Neither does the fact that you omit by accident or mistake the copyright notice from one or more copies of a properly copyrighted photograph, invalidate your copyright. But you *cannot collect damages* from any one who has obtained possession of one of those unmarked copies and reproduced it in ignorance of your copyright thereon. You can, however, stop them from making any more copies or reproductions by notifying them that you own a copyright on the photograph.

You can mark your photographs copyright and deliver them to any one even before you have obtained protection, provided you deposit at once, at your post office, two copies of the photograph and the proper copyright application with a money order for fifty cents made out to the Librarian of Congress. Application blanks can be obtained from the Librarian of Congress at Washington, D. C.

Copyrighting your photographs is a simple procedure, inexpensive and well worth while. Further, it will pay you to become a member of the Copyright League, of which Joseph Byron, Marbridge Building, New York, is the Treasurer. It costs only a dollar a year and you can get all the legal advice you want in case you ever have one of your photographs infringed.—*Photographic Progress.*

A NEWSPAPER SCOOP

THE *Newspaper Owner* publishes some interesting particulars of the manner in which *The Daily Mirror* (London) out-distanced all its competitors by its Durbar photograph. The careful and skilful arrangement of this enterprise deserves a place in the annals of newspaper production, Nothing was left to chance, but by elaborate planning of the smallest details the picture, which was taken on December 12 at Delhi, reached London at 2.30 A.M. on Saturday morning (December 30) and was being printed half an hour later. In order to accomplish this feat *The Daily Mirror* management chartered a special steamer at Calais so that several minutes before the last passenger had alighted from the Brindisi train the steamer passed the Calais pier-heads on its way to Dover. But much more than this expeditious crossing was anticipated. *The Daily Mirror* had fitted up on the boat every appliance for printing the Durbar plates and making the half-tone block for printing. Within five minutes of the time the special train entered St. Paul's Station the first picture of the Durbar passed into *The Daily Mirror* office as a half-tone block ready for printing. In order to save delay, the description for the foot of the picture had been sent from the boat by wireless. Thus nothing remained but to transfer the block to the stereotype plates from which *The Daily Mirror* is printed and by three o'clock the first complete copies were obtained from the presses.

Backing for Orthochromatic Plates. Orthochromatic plates should have a black and not a red or brown backing, and an excellent substance for the purpose is to be found in ordinary stencil ink, sold in cakes, for stenciling on packing cases. A stencil brush serves well to apply it.

A PROFIT-SHARING PLAN FOR EASTMAN KODAK COMPANY EMPLOYEES

THE sum of $500,000 is involved in the announcement made by George Eastman of the proposed trial of a profit-sharing plan for the employees of the Eastman Kodak Company. The plan has been evolved by Mr. Eastman, and at the annual meeting of the shareholders of the Eastman Kodak Company of New Jersey, on April 2, authority to give it a trial will be asked. The sharing is planned to take place in the month of July, 1912, and all of the 6000 Rochester employees, as well as employees of the company wherever situated, will receive the dividends based jointly upon dividends in excess of 10 per cent. paid to common stockholders for the year 1911, upon the term of service of the employee and his annual wages.

Under the plan of computing this, each employee will receive 2.1 per cent. of each year's wages up to five years, all who have been employed more than five years being treated the same as five-year employees. This means that each one will receive, if he has been one year in the employ of the company on March 1, 1912, slightly over one week's wages, and so on. Five-year employees will receive 10.5 per cent. of their annual wages, or over five weeks' pay.

The plan has been informally discussed with the company's directors and largest stockholders, and approved by them. Mr. Eastman has had the plan under consideration for several years, but other profit-sharing systems did not seem to meet the requirements of the Eastman Company, and an entirely different scheme was evolved. Mr. Eastman desired to benefit the great mass of workers upon whose labor and loyalty depended so much of the company's success and prosperity, in common with the shareholders.

Mr. Eastman's Plan

George Eastman, head of the great organization, made the following statement with regard to the new plan:

"Acting upon the theory that employees engaged in an industry that is paying extraordinary dividends to its shareholders are entitled to some recognition outside of their fixed wage, the management of the Eastman Kodak Company has devised the following plan, which has been approved by the directors and will be recommended for a trial, based upon last year's operations, under authority to be applied for at the annual meeting of the shareholders, to be held April 2.

"In working out the theory it has been assumed that the dividends to common shareholders up to 10 per cent. are the equivalent of the employees fixed wage and that dividends in excess of that figure may be fairly considered as extraordinary. The plan devised, therefore, provides that the dividend to wage earners shall be based upon such extra dividends paid to shareholders. In arriving at the proportion (in the absence of any established standard) all the factors bearing upon the problem, including length of service, have been taken into consideration, and it has finally been decided to fix the percentage of the wage dividend at 35 per cent. of the percentage of the extra dividends paid to holders of common stock, same to be divided and applied on a period of five years.

"As an illustration take the past year: The extra dividends to holders

of common stock have amounted to 30 per cent. Thirty-five per cent. of 30 per cent. equals 10.5 per cent. divided by 5, equals 2.1 per cent. on each of five years' wages. Applying this formula it will be seen that an employee who has worked for the company five years and who, for example, has averaged $10 per week during that time, will receive $54.60, equal to about five and one-half weeks' pay. If he has worked four years he will receive $43.68, and so on down to one year, in which case he will receive $10.92 (equal to a little more than one week's pay).

"In other words, each employee will receive a little more than his average week's pay for every year he has worked for the company, up to five years. Only employees who are on the payroll of the company March 1, 1912, and who worked the full calendar year of 1911 will be entitled to participate, and continuous service only will be recognized. That is to say, any employee who during the five years left and re-entered the service of the company will participate only from the time of re-entry. Fractions of years over one year will be counted.

"Piece workers will participate on the same basis as those receiving fixed wages or salaries. Bonuses paid for efficiency will be counted as wages, but payments from the welfare fund will not be so treated.

"No person having authority to engage labor for the company will be permitted, in fixing wages, to take into account any wage dividends which may have been or may be received by the employee.

"It is understood that the trial of this plan does not commit the company to its continuance, but it may be assumed that if it is continued the wage dividend will be proportioned to the extra dividend paid on common stock. For instance, if the extra dividend for 1912 should amount to 20 per cent., the wage dividend would be 20 x 35 divided by 5 equals 1.4 per cent. on five years' wages. In case the extra dividends should be 40 per cent., the wage dividend would be 40 x 35 divided by 5 equals 2.8 per cent. on five years' wages.

"All common stock dividends, except the January 1 dividend, will be counted in the year in which they are actually paid, irrespective of when they are declared. The January 1 dividend will be counted in the previous year.

"The wage dividend will be paid as soon as it can be figured, probably about July 1.

"There will be another $500,000 added this year to the welfare fund, but no general plan for dealing with the fund has yet been devised. In the meantime the company will as heretofore deal with each case on its own merits."

[Since writing the above we learn that at the annual meeting of the stockholders of the Eastman Kodak Company of New Jersey, the above plan was unanimously adopted. The first distribution, based on last year's operations, will be paid about July next.]

CINEMATOGRAPHY FOR THE PHOTOGRAPHER

[In our last issue we printed Mr. Frey's prophecy of the coming of the motion picture photograph, we now reprint from the *British Journal of Photography*, our up to the minute English contemporary, the possibilities of the fulfilment of the prophecy. —Eds., W. P. M.]

It is surprising that the average studio worker pays so little attention to the making of cinematograph films, which might well form a valuable source of added income. This industry remains in comparatively few hands, yet it is emphatically one in which a moderately careful and painstaking photographer should meet with many opportunities of remunerative work. A certain outlay is, of course, requisite in the beginning for the cinematograph camera and other accessories—though the camera may, if desired, be hired—but beyond this and the cost of the films themselves no other expenditure is really necessary.

It is quite a delusion that effective cinematograph films cannot be produced without a specially designed theater-studio and a staff of expert actors. These are only wanted for films of a dramatic nature which tell a connected story. A visit to any of the "Picture Palaces" that continue to spring up all over the country will serve to assure the photographer that there are many other subjects suitable for film production, besides those which call for careful staging. Of such a nature are outdoor and topical subjects, which may be classified under the heading of news. Processions, sports, pageants, fires, and any unusual or novel occurrences are among the very large number of possibilities in this direction which the ordinary studio worker, given good apparatus, average care, and a little practice, is quite as likely to do justice to as the expert cinematograph operator. The large firms that undertake the manufacture and distribution of films are always ready to consider any new subject submitted to them, and are eager to purchase it if good, Among other possibilities within the purview of the average photographer are those of a scientific nature, such, for instance, as curious natural phenomena; the lives and habitat of animals, birds, fishes, and insects; even simple chemical and electrical experiments if well and strikingly recorded. Important industries shown in different stages, machinery in action, shipbuilding and launching, railway work of all kinds, building operations on a grand scale—these, and innumerable other subjects of a similar sort, may be pressed into service. The country, too, and the sea coast, offer an equally promising mass of material. Ploughing, sowing, harvesting, cattle-driving, sheep-tending, farmyard scene, even little idyllic country dramas with a simple setting, if one or two intelligent actors can be met with locally, are a few among the obvious possibilities inland; while beach scenes, the wave-swept coast, fishing incidents, landing the nets, lifeboat practice, not to mention the antics of the familiar pierrot and nigger, occur at once to mind as worthy of record in connection with the seaside.

A few words will doubtless be expected with regard to the type of apparatus required and its approximate cost. Like all other photographic paraphernalia this varies greatly. A good cinematograph camera may range in price from $300 to $350. The negative supply film, usually put up in rolls of 150, 200, and 300 feet, costs $3\frac{1}{2}$ cents per foot. The worker is not advised to purchase apparatus outright until experiment has proved his capabilities, since the camera may be hired for about $2.50 per day, a plan which not only enables a good idea of the work and its possibilities to be obtained at a comparatively moderate expense, but also gives a better practical notion of the desirable points to be sought when buying, should this ultimately be decided on. The film is, in such a case, the principal

expense, for it will be used at the rate of a foot per second, and this soon mounts up; but for experimental exposures there is no need unduly to prolong operations.

A good deal depends on the quality of the lens, and it is emphatically an economy to get the best possible. Sometimes it is furnished with the camera, otherwise it has to be obtained separately. It should be a short focus anastigmat of large aperture. Most of the leading opticians make a feature of special lenses for cinematograph work of from 1½ in. to 4 in. focus, and with a full aperture varying from *f*/3.1 to *f*/5.6, or thereabouts. For most purposes *f*/6 will prove sufficient, and even *f*/8 may be used for some subjects, but a larger aperture is, of course, a valuable reserve force. A good cinematograph lens costs about $35.

With regard to the actual work, there are few real difficulties, though special care is needed at each stage. There are several practical handbooks on cinematography which will afford all the necessary technical details. A volume dealing with the history, theory, and mechanical construction of cinematographic apparatus is "Living Pictures," by H. V. Hopwood. "Animated Photography," by C. M. Hepworth, is also excellent. Another valuable book, "The Modern Bioscope Operator," deals principally with the projection of the finished film. Supplementary to the information obtainable from a careful study of such literature a few remarks may serviceably be offered.

The roll of film is inserted in the dark-room on the spindle of a film-box, an accessory taking the place of the ordinary dark-slide. The end of the film is carried through the jaws of a light-trapped slot in the side of the film-box, and the door of the latter is closed and fastened. The film-box may then be placed in the upper part of the cinematograph camera, pulling the projecting end of film over the various rollers, passing it through the film-gate or exposure opening and bringing it down to the lower or reeling-off film-box, where the end is secured, usually by a spring clip, to another spindle. The doors, both of the lower film-box and of the camera, are then closed and fastened. The precise arrangement of the rollers, sprocket wheels, and intermittent mechanism varies in different makes of apparatus, so that it is well to seek an explanation of this when purchasing or hiring, or to obtain such pamphlets of instructions as are frequently supplied gratis by manufacturers. The film-boxes are interchangeable, in order that several may be carried if desired, the empty one being then used for reeling-off.

Focussing is usually performed by means of a tube that runs right through the camera, thus permitting a view of the portion of film in front of the lens. This tube terminates in an external cap, which the operator must take care to replace after focussing to avoid further fogging of the film. The finder in which the subject is followed during exposure varies in type, but is mostly placed on a level with the operator's eye, and gives a picture the size of that on the film itself. Some finders, however, give a larger picture, at least one pattern of camera being arranged on the reflex principle with a magnifying eye-piece, and with a wire-frame direct vision finder in addition. An indicator or gauge is commonly provided to show the amount of film used, and also an externally worked punch or similar contrivance for marking the film at the end of a given subject.

Correct exposure is most important

and should be ample to secure full detail and gradation. This means that the cinematograph camera can only be used in a fairly good light, since there is not so much choice of exposure as in ordinary work, the rapid intermittent change of the pictures having first to be allowed for.

Usually there is a rotary shutter with a radial slit or opening, the size of which may be adjusted to give exposures varying from about $\frac{1}{30}$ to $\frac{1}{100}$ sec. As a rule the largest opening possible should be used unless very rapidly moving objects in full sunshine are to be taken. The average rate of movement of the film should be one foot, or sixteen pictures, per second, which generally means two turns of the handle. Vibration of any kind must be carefully avoided.

As regards development the deliberate and thoughtful worker who takes a pride in his work will know instinctively what defects must be shunned without being told. He will, in fact, be brought face to face with much the same problems and difficulties that have no doubt been met with by him in developing roll-films. The cinematograph film is nothing but an unusually long, narrow roll-film, and is treated in practically the same way, except that it has to be wound on a special frame or drum during manipulation. Many different devices are in use for holding the film during development, a simple and favorite arrangement consisting of a large roller made of laths, round which the film is wound, sensitive side outward, the ends being secured by pins or clips. The roller is supported by a pair of standards above a shallow trough filled with the developer, and is revolved slowly with the film dipping in the latter until sufficient density is attained. Many workers prefer wooden frames with or without pegs or teeth, these being designed for use either in flat dishes or upright tanks. It is even possible merely to pass the film from hand to hand if a sufficiently large tank is used, though this would now be considered a rather primitive method. A non-staining developer is essential, amidol or dianol being well suited for the purpose. Washing and fixing are done in a similar manner to development, an acid fixing-bath being preferable. After one hour's washing the film should be given five minutes in a glycerine bath consisting of: Water, 32 parts; alcohol, 4 parts; and glycerine, 1 part. The film is then allowed to dry on the drum. When dry the celluloid side is wiped carefully to remove any marks, after which the film may be rolled up. If much work is done it is better to use a separate drum for each operation.

The negative film requires to be clean and bright and, above all, free from pinholes, scratches, or patches due to uneven development, which, it must be remembered, cannot be very effectively retouched, and will be greatly magnified when projected. Not only the gelatine side of the film, but the celluloid also, requires the most careful treatment. Till some experience has been gained there is no absolute need to do the development oneself, as many cinematograph dealers will undertake this at a charge of about ½ cent per foot.

To make the positive film a printing machine is wanted, unless the camera itself is also adapted for use in printing, as is the case with some models. The negative film and the unexposed positive film—which costs 6 cents per foot—have to be unrolled simultaneously from their separate spools, and passed

together in close contact at a uniform rate behind an exposure opening. The greatest exactness of registration is necessary, as any inaccuracy in this respect would produce a jumping effect when projected on the screen. Printing machines proper cost from $300 up—a serious extra expense if only work on a small scale is to be attempted—though it is believed that these also may be hired. As an alternative it should be mentioned that the firms who undertake development are usually willing to supply, print, and develop a positive film from any negative at the inclusive charge of, say, 8 cents per foot. It is not, indeed, really indispensable for the photographer to trouble about obtaining positives unless to print a short trial slip for his own satisfaction—which is readily done in a large ordinary printing frame—as the film-purchasing houses are generally quite ready to consider negative films when of an obviously promising character. However, it may be stated that the positive film is developed in much the same way as the negative, and should have the qualities of a good, rather thin lantern-slide, free from any suspicion of hardness, and possessing perfect gradation, with a practical absence of all pinholes and defects. Thinness is important owing to the loss of light caused by intermittent projection; but, at the same time, there should be full detail everywhere. Spots and scratches must be shunned, as they give rise to a peculiar and unpleasent "rainy" effect.

It will probably be inquired what profits are to be expected if such work is embarked in? This is a question not so easy to answer, as much depends on the subject, the way in which it is treated, and the status of the firm asked to purchase. Generally speaking, the prices obtainable for effective subjects compare very favorably with ordinary photographic work, while special or unusual films answering to the designation of what the journalist would call a "scoop," may almost command their own price. At the same time it is as well to say that competition is already fairly keen and that the films must be really good both in subject and technique, and of the kind that appeals to the patrons of "Picture Palaces" to stand any chance of acceptance.

As a possible "side line" it is worth while remembering that the uniformly excellent definition of the small film pictures—due to the depth given by a short focus-lens and the fine quality of the objectives commonly used—will permit a tolerable degree of enlargement. Such enlargements on glossy bromide from topical or otherwise interesting films are often very welcome to the editors of illustrated newspapers and magazines.

In conclusion, perhaps the best advice for the worker whose desires lead him in the direction of cinematography is to attend a number of "shows" at different halls of varying grades and in localities of opposite kinds. He should study the films which he will there see projected critically and patiently, paying special attention to those subjects which lie within the range of his own capabilities. In this way many useful hints will be gained as to the qualities that make a good film and the faults that are most to be avoided. Before starting practical work a short length of picture film should, if possible, be obtained, an examination of which will demonstrate the commercial requirements that have to be met more plainly than any amount of verbal explanation.

OIL PRINTING

BY G. E. H. RAWLINS

[ONE of the features of the coming National convention is a school of modern printing processes in which experts will demonstrate such processes as the ozotype, bromoil, oil printing, and gum-bichromate methods. Many of our readers will be interested in a detailed description of these interesting processes. Below we print Mr. Rawlins's description of the process for which he has done so much.—ED. W. P. M.]

The pictorial worker generally gravitates to gum. He may usually prefer platinotype or bromide, for one reason or another, but some fine day he will surely give the water-color process a furtive trial; and even if he stick to his old favorites for everyday work, I believe he generally hankers after it in secret. "But if only it weren't so tricky," he sighs; "If only I could get a full, rich gradation of tones." "If only——" But the list is a long one, and we are bound to face the fact that, with all its tremendous advantages, the control, the direct and personal character of the process, its simplicity —I might almost say its elemental simplicity—gum also possesses certain imperfections and drawbacks, not to mention limitations, which prevent it from always answering the needs of the photographer who is also an artist. Given, therefore, a process in which these defects were eliminated, while the artistic advantages of gum were still further expanded and supplemented, we should be in a position to rise to pictorial heights quite undreamed of in our printing philosophy.

Now, oil printing certainly has many of the characteristics which would distinguish the ideal process, and, although a close acquaintance with it may reveal a few weaknesses, I have no hesitation in saying that these will not prevent it from taking a very important position, when sufficiently well known, among those processes which particularly lend themselves to pictorial requirements. There can be no doubt whatever that control in oil printing is vastly greater and more definite than in gum; and this is not merely my own opinion, but that of some of the foremost photographers of the day who have made themselves familiar with the process.

Rationale of the Process

The materials required are now specially manufactured for the purpose, and there is neither grinding of pigments nor coating of paper to absorb our energies and destroy our inspiration. The paper as purchased is ready coated with a colorless compound of a gelatinous nature, and merely requires sensitizing in a bichromate solution and drying, like carbon tissue, to be ready for printing. As there is no pigment upon it, the progress of printing is plainly visible, so there is neither guess-work nor the vagaries of an actinometer to make the result uncertain; moreover, combination printing is perfectly practicable. When the light has done its work we simply soak the print in cold water, dab on some of the special pigment with the proper brush, and the picture appears. That's the whole process. The high lights, of course, having absorbed more water than the shadows, repel the pigment (which is of an oily nature), although

it adheres, more or less, wherever the light has caused the bichromate to harden the gelatine, thus forming the image. Naturally, we can put more pigment on some parts and less on others, and if we put too much anywhere, we can take it off again. We absolutely *build up* the image under conditions which give complete control at every stage. Though, of course, there is no merit in adopting the outfit of our brother-artists-in-oil-paints, there is, nevertheless, an irresistible charm in working with practically the same tools; and at the same time we discard all formulæ and fittings, sawdust and solutions, acids, alkalies, sizing, syringes, and cements. Yes, even formulæ, beloved of the conscientious society member, are unknown in oil printing, for the one and only solution employed can hardly be so described. You simply mix a saturated solution of potassium bichromate with an equal quantity of water—do you call *that* a formula? (Don't, on any account, be tempted to add ammonia to it.) The paper is immersed in this bath, and air bells both back and front should be removed. When limp it is taken out and hung up to drain off the superfluous liquid, and if any drops still adhere to the surface, they should be removed with a scrap of blotting-paper. Lay the sheets face up on clean paper (blotting is best), and put them in a dark place. Of course, it should be dry as well as dark; in short, if you follow carbon printing practice in the drying, all will be well. It is a very good plan to sensitize in the evening, so that the paper will have time to dry during the night and be ready for use next morning. Although it will often keep good for some time, it is far the best plan to use it freshly sensitized, and, as the prints can be kept any length of time before pigmenting, there need be no waste.

Printing

Printing presents no difficulty. The image is plainly visible, though, of course, not of full strength. It is very similar in appearance to an undeveloped platinotype, though warmer in color. When details in the high lights, such as light clouds or snow shadows, are just suggested, and no more, printing is complete. It is very rapid, and care should be taken not to overprint.

You don't want any special type of negative for oil printing; that is to say, you need not have an anemic ghost affair such as is necessary to correspond with the short range of gradation that is usually given by gum, neither is it advisable to get the chalky, over-developed sort sometimes recommended for carbon work. Any good, healthy, normal negative which would give in, say, platinotype, about the range of gradation you want in your oil print, is sure to be satisfactory. For the first trials it is best to choose a subject with a full range of gradation and a few marked contrasts.

When the prints are done they should be at once placed in water to wash out the bichromate. Running water is best. In any case, washing should continue until the yellow stain is no longer visible on looking *through* the print. Do this by daylight if possible, as artificial light is itself so yellow as to hide the stain. At this stage, if it is not intended to pigment the prints within twenty-four hours, they may be hung up to dry, when they will keep indefinitely. In any case, immediately before pigmenting they must be *well soaked*. The length of this soaking depends upon various conditions, such as the temperature of the water, but, except in very hot weather, anything up to twenty-four hours will do no harm. I find about

half an hour is the shortest time advisable for the best results, as a rule, but it is far safer to always allow from eight to twelve hours. I wash the prints as they come from the frames, leave them in a dish of water overnight, and pigment them next day.

Pigmenting

A sheet of plate-glass is about the best support for the print during pigmenting, but a smooth board or the upturned bottom of a porcelain developing dish—in fact, any smooth, even surface—will really do equally well. Three or four sheets of white blotting-paper should be placed between the print and the glass, or whatever you use, and thoroughly saturated with water. The print, direct from the soaking, lies face up, and be careful that there are no lumps of any sort under it. Linen may be used instead of blotting-paper, but is rather more liable to be lumpy; nevertheless, it has the advantage of not giving off "bits" as blotting-paper does.

Now the print must have all the surface water removed from it, but, in order to avoid *extracting* moisture from the coating, this should be done with a soft sponge or clean linen rag squeezed out of clean water, and made into a pad. Sponge is best, as it gives off no fluff. Fluff and dust must be carefully guarded against at every stage of the pigmenting. And now for the pigment. This is sold in the form of a stiff paste, and it may be applied to the print in two ways; but, whichever method you adopt, your principal tools will be the special dabbing brushes supplied for the purpose. You will also require a "palette," but this need not be of the traditional pattern, with a nice oval hole for your thumb to come through! No, an old negative, a tin lid, or, in fact, almost any non-absorbent material, will serve. If you have not already a palette-knife, you should get one, as they are tremendously useful; but, again, a substitute, in the shape of a bone paper knife, will do at a pinch.

Applying the Color

Now, of the two methods to which I have referred, you will make a choice for each print according to the type of subject and the effect you wish to get. The easier method with which to make a start gives you effects similar, in a sense, to those obtained in gum printing, and it is most suitably employed with subjects containing a large proportion of shadow. You take a small quantity of pigment and spread it thinly on your palette, being careful to leave no lumps or ridges. Now take your largest-sized dabbing brush (a No. 10 or No. 12 is useful for this purpose), and charge it by lightly dabbing it on the patch of pigment, thus getting a very small quantity on the tips of the bristles only. Next dab it firmly on the print, which will take all the color from the brush in a few dabs, recharge on the palette, and repeat this procedure until the print is lightly covered with pigment more or less evenly distributed. Probably the picture will have begun to show, but it will be dull, dark, and flat and patchy-looking. If you have left any lumps or ridges in spreading the pigment on the palette, you will now see the result, in the shape of various black spots, really solid little blobs of paint, which are too large for the brush to disperse. To get rid of them you should place your finger upon them, and draw it slowly away, pressing very lightly. (If you want to avoid messing your fingers you will make a little pad of soft, smooth, and thin

leather, such as may be cut from an old glove, and use that instead. It will also be handy for other purposes to be mentioned later.) When the brushes are new, they are rather liable to deposit on the print a large and varied assortment of short hairs and "bits," which, if allowed to remain, would hardly help the composition of the picture. Therefore, as soon as there is a fairly generous collection of this *debris* it is well to get rid of it, which is easily done by removing the print from the blotting-paper and gently rubbing it, while supported by a piece of glass, with a soft sponge and plenty of water. This will not disturb the pigment to any extent, but the bits will budge all right.[1] Put it back on the blotting-paper (which may now require remoistening), and go ahead. Whether the image has begun to show or not, it is still imperfect; but at this stage you change the action of the brush in such a manner as to bring out the picture fully and build it up with the pigment already upon it. And this leads us to a study of these two brush-actions. Take an ordinary lead pencil, and hold it point upward over the table in a vertical position, and raised a couple of inches from the surface, your hand being in the position for writing, but also raised from the table. Now let the pencil slip through your fingers, full speed; it will strike the table and instantly bounce off it again, and before it hits the table again you must catch it. When you can do that easily, and take the pencil hopping thus across the table (of course, your fingers encircle it the whole time), you will be in a position to do anything in oil printing you may desire. It sounds rather a job when you describe it, but it is, as a matter of fact, ridiculously simple, and with a very little practice you will readily acquire the knack of it. Let us call it the hopping action. Although it is so simple, its importance is very great, and success almost entirely depends upon it. The firm, dabbing action requires no description.

(To be continued.)

[1] Another method, even better than the above, is to vigorously "smack" the print with a flap of linen, such as an old pocket handkerchief, saturated with water. The bits will transfer their affections to the linen, but will come off it when dipped into water, which should be done after each "smack."

NEW BOOKS

Photography. By E. O. Hoppé, F.R.P.S., and others. With 120 illustrations, 2 colored plates and numerous diagrams. New York: The Photographic Times Publishing Co., 1012. Price, $2.00.

This book is one of a series under the name of "The Concise Knowledge Library," and is in many respects a concise and practical guide to every-day photography. Divided into forty-six chapters, the subject is very thoroughly covered. In addition to the usual chapters on optics, chemistry, composition, printing processes, retouching, etc., there are chapters on subjects such as are not usually treated upon in a popular handbook, some of these chapters are: The Wet-plate Process; Emulsions for Dry Plates and Films; Photography in Natural Colors; Three-color Negatives; Animated Photography; Photo-engraving, Collotype, etc., and Photography of the *X*-Rays. The illustrations are unusually good and include examples by leading European workers. The chapters on portraiture, of which there are three, are written by O. E.

Hoppé, who is particularly well qualified for the subject. On the whole a most satisfactory addition to the literature of photography and should be included in every photographic library.

The Art of the Berlin Galleries. Being a History of the Kaiser Friedrich Museum, with a Critical Description of the Paintings Therein Contained; together with a Brief Account of the National Gallery of Nineteenth Century Art. By DAVID C. PREYER. 318 pages and index, illustrated with 47 full-page plates in duogravure. Decorative cloth binding, $2.00. Boston: L. C. Page & Co., publishers.

This is the latest addition to the "Art Galleries of Europe Series," several of which we have reviewed in these columns. In this book Mr.

Preyer has done the same service for the two important Berlin galleries that he has performed for the galleries of the Netherlands. Vienna, and our own Metropolitan Museum. Under his guidance we are taken through the many rooms of these huge galleries of masterpieces and given a fuller appreciation of the different schools of painting in this historical and chronological sequence. The Berlin Museum, excepting only the National Gallery, London, excels any museum in existence in its complete presentation of the historical development of the art of painting from its earliest beginning to the end of the eighteenth century. What would photographers give to have ready access to room 57 of this museum with its twenty-two Rembrandt's? The author gives an intimate account of the pictures and the painters, and next to visiting the galleries themselves a more satisfactory and enjoyable method of becoming acquainted with them than this book offers could not be desired.

Sanford's Manual of Color. By JOHN ITHIEL SANFORD. With color charts and table of analysis of color. New York: Hugh Kelly & Co. Price, $1.00.

Few photographers realize the importance of a correct knowledge of color, a knowledge more needed than ever with the introduction of the color plates. In this book the author, in clear and non-technical language, enables the reader to get a conception of color and color combinations, about which so many of us have but the vaguest notion. A knowledge of color harmony is as necessary to the photographer who does color work as it is to the painter, and in the few short chapters in this book this knowledge is made plain and can easily be mastered. It is the most simple and practical guide to the composition of color we have yet seen. We will be glad to forward a copy on receipt of the price.

Flashlight Portraiture. A Book of Common-sense Information and Practical Methods of Making Portraits by Flashlight at Home or in the Studio. 46 pages, fully illustrated. New York: Tennant & Ward. Price, 25 cents.

A book that is fully described by its sub-title. The information is simple and to the point, leaving nothing untold. Bust portraits, large and small groups, silhouettes, doorway pictures, and fine light effects are fully treated and necessary diagrams given. It is a standard text-book on the subject. Can be obtained at your dealers.

Dark-room Work. A Practical Dark-room Manual, with Suggestions as to Equipment, Working Conveniences, Short Cuts, and Handy Methods of Dark-room Work. 62 pages and numerous diagrams. New York: Tennant & Ward. Price, 25 cents.

Another handy volume for the practical photographer's library. Full of useful little pointers for the saving of time, temper, and trouble. You may know a lot of them, but one new one may be worth many times the price of the book to you. The book contains a wealth of suggestions and ideas—a quarter buys it at any dealers.

TRADE NOTES

THE makers of "Agfa" Blitzlicht (flash-powder) state that this powder is especially suited for the making of autochrome plates, it only being necessary to use a screen adapted to this light. Such a screen can be prepared as follows: 120 c.c. of a 6 per cent. gelatine solution; 12 c.c. filter yellow K solution 1 to 100; 12 c.c. distilled water. Of this solution, take 8 c.c. and pour over a sheet of optically parallel glass, about 4 x 5 inches. In making flashlight exposures use about twenty-five times more flashpowder than for regular flashlight work.

THE Sepaline Tablets offered by BURKE & JAMES, of Chicago, give the most simple, convenient, and certain method of obtaining a good sepia tone on developing papers, transparencies, and lantern slides than anything else we have yet tried. Two tablets, crushed with a stirring rod and dissolved in two ounces of water, will convert a black and white print into a rich sepia print in two minutes. No bother about the preparation and no doubt about the result. BURKE & JAMES have put up a ten cent trial set, sufficient to tone about 300 cabinet prints and convince you as to results.

THE announcement that T. C. MULLER is now allied with the Defender Photo Supply Company will be received with interest by photographers everywhere, who have taken a strong liking to "Smiling Ted" during his connection with the old Artura Photo Paper Company and later with the Ansco Company. Mr. MULLER is "special representative" for the Defender Company—the whole country is his parish, and he will not be restricted to any particular field or line of endeavor. His work will consist in advancing the use and popularity of Defender products, and he states that he is entirely happy over the prospect. The Defender Company is to be congratulated upon Mr. MULLER'S accession. He is one of several well-known men whom this company has secured recently, each of them head-liners in his particular department.

MESSRS. J. HAUFF & Co., manufacturers of Metol-Hauff, urge their patrons to beware of mixtures offered at cheaper prices, with a plea that they save the photographer the trouble of mixing his metol with hydrokinone, or weighing separately, as there is no guarantee that they will receive any Metol-Hauff in such mixtures. Metol-Hauff should not be purchased in any but the original packing, so well known in the trade for the last twenty years. Look for the little white ticket on the bottle, which bears the name of the American Agents, the well-known photographic house of G. GENNERT, 24-26 E. 13th Street, New York, and 320 So. Wabash Avenue, Chicago.

THE PHOTO PRODUCTS Co., 6100 La Salle St., Chicago, has just put on the market a developing paper of quality for the professional photographer. Our experiments with it have been more than satisfactory. A paper of medium speed, with much latitude in exposure

and development, it is possible to bring out everything in the negative, giving soft, artistic effects, full of detail, with transparency and warmth in the shadows. While there are five grades of Platora the emulsion in each grade is the same, the difference being in the surfaces and weights. This makes for uniformity in results and simplicity in manipulation. Grade A is a single-weight stock with a smooth semi-matte surface; grades B, C, and D are double-weight stocks with smooth semi-matte, smooth absolute matte, and medium-rough absolute matte surfaces, respectively; grade E is a double-weight buff stock with medium-rough absolute matte surface. This produces a very pleasant mellow tone effect.

In addition to the splendid printing qualities of Platora it has the addition a good quality of being non-curling. The manufacturers have worked out a process of preparing the stock that eliminates the objectionable curl that is the bane of most printing papers. This result has been accomplished by coating the back of the raw stock in such a manner that the action of the emulsion is counteracted, and as a result the sensitized sheet lies perfectly flat while handling, and if prints are properly dried, they will remain flat indefinitely. This improvement will cover all papers and postcards made by The Photo Products Co., and as the curling tendency is a most disagreeable feature of developing papers the company is to be congratulated on its elimination. Professional photographers can obtain free samples of these papers and we would urge them to write The PHOTO PRODUCTS Co., 61 La Salle St., Chicago, for a set.

AT the conclusion of the special post-graduate course at the Southern College of Photography in February a glowing testimonial, with the signature of every member of the class attached, was presented to "Daddy" Lively in acknowledgment of his services as guide, instructor, and friend throughout the course. We congratulate the class on its discrimination. Not only is Mr. Lively a most thorough and successful teacher, he is also one of the most helpful and genial men in the profession and is held in high esteem by all who know him. Below we reprint the testimonial, omitting the names through lack of space:

McMinnville, Tenn., Feb. 29, 1912.

We, the undersigned students, wish to express our appreciation and thanks to Mr. W. S. Lively and Mr. J. S. Lively for the valuable information they have so graciously and ably taught us during the special post-graduate course just closing.

We feel ourselves incompetent to express our satisfaction for the great good we have derived from the very comprehensive program that has been so ably carried out during the last four weeks.

We take pleasure in recommending this school to the photographic profession as being up-to-date in every department, and would advise every one who may need or wish advancement to take a course in this institution, which stands second to none.

THE BERLIN ANILINE WORKS, 213 Water Street, New York, have just issued a useful list of formulæ for tank development, including "Agfa" Glycin, "Agfa" Metol-Hydro, "Agfa" Ortol, and "Agfa" Rodinal. Clearly printed in white on black and on a heavy bristol-board, punched ready to slip on to a nail, it is a work-room convenience, conserver of gray matter, and eleminator of guess work. Copies can be had on request.

MESSRS. ROSS, LTD., manufacturers of the well-known Ross Lenses, have, after prolonged and exhaustive calculations, produced a new telephoto lens, known as the "Telecentric." This new type of construction gives the photographers a fixed focus telephoto lens with a real focal length of about double the camera extension, and at the large working aperture of *f*/5.4 or *f*/6.8. The definition is as crisp and brilliant as that of a high-class anastigmat, the field is flat, and the lens is corrected chromatically. Such a lens disposes of the need of double extension in the camera and gives a large image at short focus. It will be found useful on single extension reflex cameras, practically doubling the size of the image. GEO. MURPHY, INC., 57 E. Ninth Street, New York, are the American agents for all Ross lenses and will be glad to send further particulars of the "Telecentric" on request.

IN every line of endeaver there is usually one name that stands out from all others in the same class—as Tiffany in jewelry, Gorham in silverware, Stetson in hats. When you get down to view cameras it's the Century View Camera that comes to mind first, the reason being that some things establish for themselves a name for the highest standard of excellence. The photographer in need of a view camera makes no mistake when he orders a Century View Camera. He does make a mistake if he orders any other without first investigating the Century.

PHOTOGRAPHERS who are interested in the possibilities of the moving picture would do well to secure a few copies of *The Moving Picture News* and the *Moving Picture World*, both published in New York at 10 cents per copy. They cover this new field very thoroughly.

PHOTOGRAPHERS who are interested in getting color prints from transparencies should note that the Utocolor paper can now be obtained from C. L. LEWIS, 522 Sixth Ave., New York, who has been appointed sole agent for the United States for this paper.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor
MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK
Entered at New York Post-office as Second-class Matter

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EDITORS' TABLE

WE are very sorry to record the death, on February 23, at a nursing home in London, of MR. WILLIAM GILL, the well-known English photographer, of Colchester. A good friend of ours, a subscriber of many years' standing, and a frequent contributor to our picture pages, Mr. Gill's work will be remembered for its good qualities and home portrait effects secured by the use of window effects. He was an advocate of the real as against the sham studio accessory.

Mr. Gill was an active worker for the Professional Photographers' Association, being its President at the time of his death, which came suddenly after a few days' illness, in London, where he had gone to attend to business matters in connection with the estate of the late H. Snowden Ward, of whom he was an executor.

MR. J. P. CHALMERS, editor of *The Moving Picture World*, and onetime editor of *American Amateur Photography*, was accidentally killed by falling down an elevator shaft on March 27, while attending the Ohio State Convention of Moving-picture Operators. In his five years' connection with motion picture interests he had built up a strong and influential weekly magazine, and his untimely death is a distinct loss to the motion picture world.

MAKING FACES AT ST. LOUIS, a clever play upon the words, issued by our good friend J. C. Strauss, of St. Louis, who to our certain knowledge has been making faces at St. Louis for many years, and very desirable faces they are. The illustrations for this clever advertisement are reproductions of the famous carved faces on the corbels around the Strauss Studio

---

WE congratulate Brother Abel on the improved appearance of *Abel's Photographic Weekly*, also on his acquisition of an associate editor. Charles L. is a bright boy, and we are giving him a due share of credit for the bright and early appearance of the journal. With Juan C. Abel and Charles L. Abel as editors, and A. A. E. Abel, proprietor and publisher, why should it not be *Abels' Photographic Weekly?*

THE SAINT LOUIS SOCIETY OF PHOTOGRAPHERS, formed some months ago with the foremost photographers of the city as charter members, held a meeting on March 18, to which all professional photographers in St. Louis were invited. Short talks were given by O. C. Conklin, J. C. Strauss, Ed. Rosch, Kajiwara, Delporte, Schweig, Kandeler, and others. Considerable enthusiasm was aroused, and no fewer than twenty-two new members were enrolled. With such a good start more should be heard of this new society.

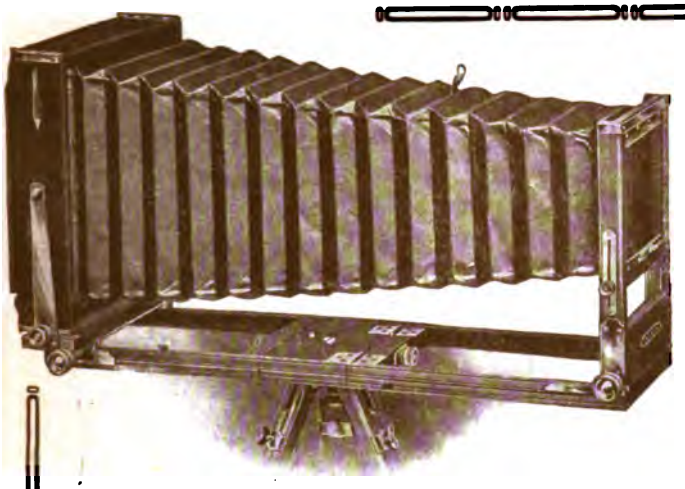
STILL they come—a new one almost every week. Here is the latest color photography method, demonstrated in London a few days ago.

(*By Marconi Transatlantic Wireless Telegraph.*)

LONDON, March 27.—A new method of color photography, embodying extraordinarily brilliant results, has just been demonstrated before the Royal Photographic Society. The peculiarity of the method is that no special color plates are necessary, nor is there any introduction of artificial color screens or colored particles. A plain negative, as in ordinary photography, is taken and a lantern slide is made from it, and by purely optical means, using a grating and a prism, the picture in natural colors is faithfully reproduced.

The process is the work of two brothers, Ernest and Julius Rheinberg, and is called the micro-spectra method of color photography by prismatic dispersion. The method necessitates a special and costly camera, and is therefore put forward for its scientific interests and not as a commercial proposition. It turns upon the use of a grating, or line screen, which splits up into immense numbers of tiny spectra, one hundred to the inch, and each one complete. The grating is used in making the negatives, and later, when placed behind a positive, when made from the negative, it enables black and white pictures to appear in the exact color of nature.

The results of the method were projected on an aluminum screen and were declared to be unsurpassed in fidelity of color rendering by any method in vogue at present. Its ability to render the texture or distinctive sheen in such articles as silk, china, or glass, is remarkable.



Century View Cameras

Century View Cameras offer more real value, more genuine merit, than any view camera that has ever been placed on the market. The Century Double Grooved Bed insures perfect rigidity under every condition, and eliminates vibration when heavy lenses and shutters are used with the bellows extended.

The long bellows permits the use of the camera for copying, long focus and tele-photo work.

The large front board accommodates the high speed anastigmat lenses.

The swing back and side swing (both operated by rack and pinion) permit the greatest range of movement, making it possible to do the most exacting kinds of architectural and group work.

The reversible back is fitted with movable cut-out for making more than one exposure on a plate.

Every adjustment is accutately fitted and placed in a position that insures ease, accuracy and rapidity of operation.

The wood-work is highly polished and all metal parts are of lacquered brass, giving the camera a richness and dignity that at once indicate Century Quality in appearance, as well as perfection of construction.

Century Camera Division
Eastman Kodak Co.
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Vol. XLIX ÷ ÷ ÷ ÷ No. 665

MAY, 1912

WILSON'S PHOTOGRAPHIC MAGAZINE

DEVOTED TO PHOTOGRAPHY MONTHLY: ILLUSTRATED

$3.00 A YEAR

SINGLE COPY, 25 CENTS

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OUR PICTURES:

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Ansco Company

Binghamton, N. Y.

By L. A. Dozer, Bucyrus, Ohio

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. XLIX MAY, 1912 No. 665

DO CONVENTIONS PAY?

THE question of conventions, both State and National, is one that is likely, for the next several months, to be uppermost in the mind of the average photographer. Shall he prepare an exhibit and send it on; shall he prepare an exhibit and take it on; shall he go to convention without any exhibit; or will it pay best for him to ignore the convention entirely and remain at home? These are four aspects of the case which call for consideration and decision.

There are many things naturally entering into the consideration of such a subject as this which affect different men in different localities in widely different ways. If the convention in question is to be held within a reasonable distance from his place of business; if it can be reached without the expenditure of too much time, trouble, and money, the progressive photographer is likely to prepare an exhibit and go with it to the convention. This is, by all odds, the most reasonable thing that he can do. He who has at heart the best interests of his business, and who is desirous of improving his own technique and of raising the standard of appreciation in the minds of his patrons, will profit by this course.

The craft would profit materially if conventions could be more often held throughout the country, and a more intimate exchange of ideas and technique brought about. There is a tendency, which had its origin in the very beginning of photography and which has never yet been wholly eradicated, for the photographer to distrust his neighbor. This tendency has led to no end of petty jealousies, and will doubtless be the cause of many more to come, and so long as it exists the cause of photography itself will be hampered and its progress hindered. There ought to be business enough in this country for all the photographers who are now operating studios, but this business can never be fully developed until the public has been brought to an understanding and appreciation of what constitutes good photography.

There are many styles and schools and methods of handling photographic portraiture, and there are many able workers who interpret their subjects with more than ordinary feeling and expression. These men should be known and their work should be studied, not only by their fellow craftsmen, but by the public at large.

There exists no better way today for the accomplishment of this end than that provided by the photographic associations in their annual conventions.

The live photographer should consider it a part of the duty he owes his business not only to attend convention, but to prepare for it an exhibit representing the best work that he is capable of producing. This exhibit need not be extensive, but it should be good. It is a mistake often made to include in such a collection of prints a multitude of subjects, styles, and sizes.

Few of us are capable of producing equally good results along widely varying lines of work, and we should, therefore, select with the greatest possible care only those subjects and styles of treatment that appeal to us most strongly, and in which we are best able to infuse our own individuality and enthusiastic work. A collection of prints prepared on these lines cannot but be helpful to the man who gets them together, and will be instructive to those who examine them on the convention walls.

What if our competitor in a neighboring city does get a point or two from our exhibit that may help him to make his own work better? Can we not in turn obtain suggestions from the work of some other man that will strengthen our own hand? Let it be remembered that with every advance in the quality of the work our competitor produces the buying public is being educated to a point where it will better appreciate our own good work when properly brought to its attention.

The old-time spirit of rivalry and contention for prizes grows less bitter as the years go by. With the broadening effect inevitably resulting from photographic competitions this spirit will finally cease to count. The craft is fast coming to see with Burns that "A man's a man for a' that." Some of the closest friendships and warmest social relations have been built up upon chance acquaintances made at photographic conventions. These, too, among men who, under the old *regime*, would have considered themselves deadly rivals.

Those who make a practice of attending conventions realize the value to themselves and count the expenditure of time and money as one of the most important business matters of the year. Their work is planned in anticipation for it, and, no matter what else suffers, an appropriation is made early enough in the year to cover the expenses of convention week.

Investigation into the *personnel* of those who are regular attendants will show that they are among the brightest, strongest, most progressive and successful men in the photographic community.

If, therefore, it is in any way possible, we ought, I think, to exhibit and attend in person at least one photographic convention every year. If it is impossible to do both, let us be represented either in person or by exhibit; and if both these courses are beyond our reach, let us at least procure the fullest possible reports and give them careful study. The spirit of progress is abroad in every other field of usefulness, and we may rest assured that photography is not to be passed by. Bright and thoughtful men are constantly joining our ranks, and if we will keep pace with them we must be in touch with all that is best and most modern in our craft. We look to the associations to provide us with the best that can be obtained, and it lies with us to avail ourselves of the advantages they offer. In doing this we may make conventions pay.

PRACTICAL STUDIO HELPS

BY E. FREY

In every working man's experience—no matter what his vocation—there are times when necessity, the reputed mother of invention, will push him up against problems the solution of which would never have entered his mind without that compulsory condition. The inventor, discoverer, or perpetrator of such compulsory methods or devices may sometimes fondly flatter himself that he is offering something entirely new when the same thing may really be as old as the proverbial hills to others; and, since such a contingency may naturally be expected, I shall not take the trouble to file any priority claims for any of the appliances or methods described here, or which I may give later on. I can only say that if such articles prove acceptable to the reader and Editor I will gladly furnish more from the same warehouse.

One thing seems to me certain: That to the hardworking "bread and butter" photographer such articles are frequently of more immediate interest and actual value than the overworked and workedover dissertations on the old theme as to whether photography is a fine art, a business, or a what-you-may-call-it. Inasmuch as all these methods have been tried out by the writer and others and found "not wanting," I am safe in the assertion that they are thoroughly *practical*, and that this article is not simply written against space.

Combined Lens Shield and Focusing Hood for Portrait Cameras

Materials required: Two straight pieces of heavy wire and four small screw-eyes; total cost, about five or ten cents.

Procure two pieces of wire, $\frac{3}{16}$ inch in thickness and approximately thirty-six inches long, for an 8 x 10 camera. The screw-eyes should be just large enough to admit the wires without binding or having too much play. Two of the screw-eyes are inserted *in top* near outer edge of the front portion of the camera, the other two in top of the rear portion. See to it that the two sets of eyes run parallel and that they are equidistant. Inserting the two wires and throwing the focusing cloth over the wires and camera completes the entire job.

You will find that the movable portion of your camera will not affect the wires or focusing cloth in moving the bed in or out. The wires are held in position simply by the slight weight of the cloth. The forward ends of the wires should be bent into an eye or ring to prevent the cloth from catching on the sharp edges. Since you will very likely never have a desire to remove the screw eyes after you have once tried this contrivance, the insertion of these very small eyes cannot possibly be regarded as objectionable. A little beeswax will fill these tiny holes and never leave a mark.

As can be seen from this description, a hood of this kind will extend all the way from flush with the camera to eighteen and twenty-four inches beyond the lens, and will therefore shade it under the most adverse conditions. In addition to this, in case you happen to be making vignettes in the camera, the raising of one or the other corner of the cloth or the pulling out or pushing back of the hood will give you perfect control of the light on your vignetter. The lens shield is instantly converted into a focusing

hood by simply pulling both wires and focusing cloth backward, thus forming a hood or canopy over your focusing screen, enabling you to do your work in comfort, keep your hair tidy, and incidentally save you some unprintable words on a sweltering-hot summer's day.

An Excellent Focusing Aid For Portrait and View Cameras

The following method will vastly increase the sensitiveness of your focusing screen, and is especially valuable in focusing groups, large heads, copying, working under poor light conditions, or where focusing has to be done quickly yet accurately: in fact it will prove valuable at any time and anywhere.

First see that your focusing screen is clean; then put a few drops of glycerine on a small wad of absorbent cotton, or the tip of your finger, and rub the glycerine evenly over the ground surface of the glass. This process, of course, makes your ground glass nearly as transparent as plain glass, and, since it could not be used in that condition, take next a wad of dry cotton, clean rag, or tissue paper and remove *nearly* all the glycerine, leaving only a very thin film or trace. Now try the glass in your camera; if you can still see the outline of the lens through the glass when focusing a few more rubs will soon set that matter right. Glycerine being inherently one of the slowest drying substances we know of, your ground glass will now be in prime condition for weeks and months.

Don't attempt to use oil in place of glycerine. Oil is a very undersirable substance for that particular purpose; it is uncleanly in itself, soon becomes rancid, dries out too quick, and in drying leaves a scummy film which is difficult to remove; while glycerine, in addition to its many other virtues, may be removed with a moist rag in a few seconds.

A word of caution may not be amiss here: Since the image, as seen on a screen prepared as above, is so much brighter, more sparkling, and full of fine detail, it may possibly lead you to err on your exposure. It is self-evident that the screen has absolutely nothing to do with your actual *light value*, and that the exposures and lighting will therefor have to be the same as under former conditions.

While on this ground glass topic I happened to think of a little "wrinkle,"

How to Make a Temporary Ground Glass

This may come in handy when you happen to break your glass and have no immediate facilities for replacing it, *i. e.*, if you lack time to make one by the well-known emery and water method, or when you even havn't any ground glass substitute in the house.

Insert a plain glass in your ground glass frame; then, with a small lump of common glazier's putty, dab the side toward the lens evenly until you have the opacity desired. This little dodge will enable you to "save the day" and nail your orders until you can make more permanent repairs.

The Simplest and Most Practical Drying Rack

To studios which do a large amount of paste-mounted work, the rack or racks described below, being designed on mechanical and common-sense lines, will readily commend themselves. All racks I have seen so far, or have seen described and illustrated, seem to suffer from the same malady, *i. e.*, they

are entirely too cumbersome, too complicated, consume too much room, and their actual efficiency—or rather lack of it—is altogether out of proportion to their bulk. My racks were designed during the old albumen days, when practically all work was solid mounted and when space in the average finishing room was nearly always at a high premium. The fact that they have been extensively copied by those who have seen them in actual use in my studio seems to be proof of their real efficiency, and I simply give them here for the benefit of those who are still plodding along with cumbersome contraptions. The racks are nothing but boards of soft wood with grooves cut crosswise to receive the mounts.

Procure dressed boards of soft wood, pine or poplar, 5 inches wide, 1½ inch thick, and any length best suited to your individual needs. Have your planning mill cut grooves crosswise of boards. The grooves to be about ½ inch apart, and ½ inch deep, and should be sufficiently wide to receive your heaviest mount. A board, or stick as we call them, 28 inches long will be found to be about the most convenient length, and will hold about 50 regular or heavy mounts, or double that number in thinner mounts, if prints are placed back to back and put in same groove. Since the grooves may be very quickly cut with a power circular or band saw, the cost of each stick should not exceed twenty-five cents. The mounts, standing upright, are not liable to catch floating dust, and the spacing is sufficient to give good ventilation. You will note that each stick is self-contained, complete in itself, and it follows that you may order as many as your business may require. Five or six such sticks will give a capacity of from 250 to 500 mounts, yet they will occupy only a few inches of space when not in actual use, since they are then either piled on top of each other and left on the workbench or set aside in a corner. I think it will appeal to your mechanical instinct that in this construction there are no frames to build, no carpentering, no wires, nails, screw-eyes, shelves, cloth-stretchers, etc., and that they are practically indestructable, never needing any repairs, or time-robbing tinkering.

HINTS ON THE CHOICE OF A LENS FOR SPECIAL PURPOSES

BY F. R. P. S.

THE present-day photographer rarely chooses a lens for himself in the early stages of his work. His first lens is often a fixture in his hand camera, and is nearly always included in the "outfits" as usually sold.

It is not long, however, before he begins to find that his lens imposes limitations upon him, and he begins to inquire as to whether something more suited for the particular class of work to which he aspires is not to be obtained. To take a common case: A beginner with the "snapshot" fever upon him usually buys a camera fitted with a single lens, of which the maximum aperture is *f*/11 or less. A succession of negatives, either underexposed from the necessity of a brief exposure, or blurred from the movement consequent upon an adequate one, soon convinces him that he must seek another instrument.

With a similar lens the architectural

student finds that his marginal straight lines are distorted, and that, as a rule, too narrow an angle is included, while the amateur portraitist feels the want of a better perspective and greater rapidity.

The Pros and Cons of the Single Landscape Lens

Let it not be supposed that the single or landscape lens is without merit; properly used, it deserves far more attention than is generally bestowed upon it. Its principal and only important defects are two, viz., comparative slowness and inability to render correctly straight lines falling near the edge of the plate. On the other hand it is cheap, and the images given by it are more brilliant than those given by double combination lenses, in which the greater number of reflecting surfaces necessarily cause a scattering of light over the whole sensitive surface. In well-made single lenses the distortion of marginal lines is reduced to a minimum and excellent definition can be obtained at *f*/10, while at *f*/12.5 or *f*/16 critical sharpness is the rule. When lenses of comparatively great focal length, say 12 inches, are used upon a half-plate camera they may be regarded as rectilinear even when used upon the most trying subjects.

Symmetrical Lenses

Rapid rectilinear, rapid symmetrical or rapid aplanat are synonyms for a type of lens which has been of universal application in the past, and which still holds the field when price is a consideration. As its name implies, it gives a correct rendering of marginal lines, while it works at an intensity of at least twice that of the single lens; some kinds, usually termed euryscopes or universal lenses, work with as large an aperture as *f*/5.6, but as a rule there is a great sacrifice of covering power with such lenses. They are, however, useful for portraiture and certain classes of natural history work, but care should be taken not to select one of relatively short focal length—ten inches with a half-plate should give satisfactory results.

The Single Combinations of Rectilinear Lenses

The single combinations of rectilinear lenses may be used for distant views, but in this case care must be taken that a lens is chosen for sufficiently short focal length to permit the half lens to be used with the available camera extension. With most lenses of this type the front and back combinations are of equal focal length, but in some cases the two compounds will give different sized images from the same standpoint; this is, of course, a decided advantage.

Anastigmats

Closely allied to the rectilinears is the great group of lenses known as anastigmats; these are lenses which are not only non-distorting, but almost free from astigmatism and curvature of field; that is to say, that if there is the image of a small round object like a watch dial near the edge of the plate, it will be represented as a circle, and not elongated in either a vertical or horizontal direction, and besides this, that a line of such dials running from edge to edge of the plate, would be delineated with perfect sharpness with the full aperture of the lens, provided that they all be in the same plane. Lenses of the Anastigmat type are obviously far superior to the ordinary rectilinear, and when the front and

back combinations can be used separately as single lenses, are probably the most useful tools the photographer can possess.

Points to be noted when choosing an anastigmat are:

1. Covering power. This should not decrease when the aperture is reduced.

2. Initial rapidity or intensity; that is to say, other things being equal, choose a lens working at *f*/5.6 or *f*/6 instead of *f*/7 or less.

3. Convertibility, or the power of using the separate combinations. These should be of differing focal lengths, if possible, while the intensity of the complete lens should be as high as possible.

Some anastigmats are only capable of being used in their complete form, and when buying a lens it should always be ascertained whether this is the case with that particular instrument.

Portrait Lenses

Portrait lenses are essentially tools for the specialist and not to be recommended to the novice; their chief virtues being extreme rapidity combined with a peculiar crispness of definition over a very limited field. To those who will take the pains to study its peculiarities and to humor its weaknesses, the portrait lens is invaluable, and the user will soon appreciate the feeling of affection which an old photographer feels for a lens which he "knows." It is truly marvelous to see the different results which two men will produce with the same lens, one being strange to it and the other having used it for many years. The special predilection of the photographer naturally influences the choice of a lens or lenses.

Architecture

The architectural worker needs lenses of moderate or wide angle and of unquestionable rectilinearity. If he can afford one lens only it should be of a focal length equal to about the longest side of the plate it is to be used on—rather more than less. If the separate components can be used, distant details can be taken with them on an adequate scale. If two lenses can be selected one should be of a focal length equal to the diagonal of the plate, say 5¼ for ¼ plate and 8¼ for ½ plate, and the other for wide angle work of a focal length rather less than that of the shorter side of the plate, say three inches for ¼ plate and 4½ for ½ plate. These lenses with their single combinations will permit of almost any subject being reproduced on the desired scale.

Landscape

For pure landscape or landscape in which buildings are merely accessories the wide angle lens is usually out of place; rarely should a lens of focal length less than the diagonal of the plate be used, while one of twice the length may often be employed with advantage. Single lenses are here to be found at their best, their want of rectilinearity gives no trouble, and the freedom from internal reflections conduces to a clearness and quality which has to be seen in order to be appreciated.

For Portraiture and Figure Studies

For portraiture and figure studies outside ordinary studio work a wide choice exists. For outdoor work with ordinary sitters most of the modern anastigmats working at *f*/6 or "thereabouts" are most generally useful.

Where there is a good light, single lenses of large aperture give excellent and artistic results, the spherical aberration produced by using a single lens at *f*/10 or even *f*/8, producing soft effects somewhat resembling those associated with the name of Mr. Bergheim.

Copying

Lenses for copying pictures, maps and the like must, of course, be rectilinear, and should, in addition, have a fairly flat field, although the small aperture which can usually be employed will go far to secure this. Good rapid rectilinears, all anastigmats, some of the older types of lens, such as triple achromatics, and even some of the slower portrait or group lenses, all answer well.

A Lens for General Work

In choosing a lens for all round work, we may say that the following conditions should be observed:

1. Its focal length should be about equal to the diagonal of the plate on which it is to be used.
2. It should be capable of giving a rectilinear image.
3. It should be convertible; that is to say, that the front and back lenses should be capable of being used independently, even if at a small aperture.
4. That it should cover the plate with a rise of front equal to at least one-fourth of the length of the shortest side.

It is of course assumed that the lens selected will be free from obvious optical defects, such as flare, imperfect centering, etc.

The Care of Lenses

After the lens has been acquired it should be well treated; it pays to do so. Lenses which are left exposed to light and damp rapidly deteriorate. Many glasses darken by exposure to light, with a consequent loss of rapidity which may amount to 20 per cent. Lenses on which moisture is allowed to condense are often afflicted with yellowish or brownish stains, which opticians call "rust." These are often seen on lenses which have been used in tropical countries, and sometimes penetrate to a considerable depth.

Injudicious wiping and polishing has ruined many a good lens. Glass is more easily scratched than most people think, and a few cleanings with a gritty rag will do irreparable harm. To clean a lens, first use a camel-hair mop to remove all large particles of grit, then wipe with a clean Selvyt; if after this there is any cloudiness wipe with absorbent cotton and a few drops of absolute alcohol, and finally polish with a worn cambric or silk handkerchief. When not in use the lens should be kept in a case or, at least, have a cap on either end.

MAGNESIUM FLASHLIGHT

BY DR. M. ANDRESEN.

MAGNESIUM flashlight photography has developed from a very small beginning to high importance during the last couple of decades. Even in the earliest stage of its victorious career this new source of light has

found recognition and was employed by serious-minded men. At first only considered as a substitute for the fading daylight, this new light has opened entirely new avenues to photography and permitted exposures that until then had been absolutely impossible.

The new light entered the depths of the earth and allowed exposures to be made at any place during any time of the night. By means of flashlight the wild beasts of the desert were compelled to take their own pictures.

Flashlight photography was destined to render invaluable services to science. In the beginning, when magnesium was employed in form of wire and narrow tape, which was combusted in the open air, comparatively long exposures had to be made. Today, however, it is possible to make the most rapid exposures by means of strongly actinic and smokeless flashlight mixtures.

Nevertheless, magnesium flashlight has not found the enthusiastic reception among amateur photographers that it deserves, and one should think that photography would receive a fresh impulse if the majority of amateurs could be convinced how much the field of their activity in photography could be widened.

When the amateur begins to take pictures, he is at first completely absorbed by this new art. He takes photographs of relatives and acquaintances, makes landscape views and even attempts to make enlargements; but soon there is a perceptible decrease in his activity as a photographer on account of his professional duties that forbid him to employ the hours of the day for his hobby.

The camera is then only used on an occasional trip or voyage and rests most of the time unnoticed in a closet. Almost every amateur whose photographic debut has taken this course will be sorry that such is the case. If we consider now that just those hours, after completing our day's work, the hours at night we spend with our family and friends in our own home, offer us so many precious and interesting scenes and motives, the desire will arise in almost every amateur to reproduce these scenes in a picture.

Having the possibility to do this by means of the magnesium flashlight in so satisfactory a way, we have to ask ourselves the question: Why is it that this field of photography has found so little attention so far with the amateur photographer?

To this we have to answer as follows:

1. The pictures, especially portraits, which are taken by means of magnesium flashlight or magnesium blowlight by amateurs are very often not apt to revive the interest for this branch of photography. Under-exposure and hard and harsh lighting very often produce an expression in the faces of the persons photographed that seems very comical, and for which the term "flashlight eye" has been invented. It is possible to make arrangements in such a way that pictures can be produced which are not inferior to daylight exposures, and that cannot be distinguished from them.

2. Very often there is an idea that very costly arrangements are necessary for the production of first-class flashlight pictures. This is a mistake, for except the usual camera outfit, the flashlight, and perhaps a flashlight lamp, only a few screens are necessary, which the amateur can easily make himself, or buy for a very insignificant amount of money.

3. Another objection raised against flashlight is the smoke. In regard

to this we wish to say that there are not only appliances for removing the smoke by means of so-called flues that can be had on the market at a very reasonable price, but in addition to this, the smoke nuisance has been almost entirely done away with in those flashlight mixtures that contain nitrates of the rare earths, mixtures that are known on the market as "Agfa Blitzlicht."

In practice it has been proved that even in small rooms a very large number of exposures may be made one right after the other without the slightest inconvenience or interference by the products of combustion of the Blitzlicht powder.

4. The amateur is afraid of the danger involved in the use of these flashlight mixtures. There is no doubt that flashlight-powders, no matter how they are made up, have to be handled carefully. The necessary precautions, however, are such that any reasonable person may easily observe them. There is really no danger in the way of spontaneous combustion; in fact, it is impossible. It is necessary, however, that cheap or impure materials should never be used for these mixtures, therefore, we would advocate, as the most important precaution, to buy these materials only from reliable concerns whose conscientiousness deserves the fullest confidence.

Chemistry of the Flashlight

The most important feature of flashlight photography is the source of light employed for this purpose; it is on the qualities of this light that success depends in the last end.

In the following we shall consider the chemistry of this source of light more fully, and we shall try to give an account of the experiences made up to the present day. It is only in exceptional cases that aluminium is used as a basis for flashlight mixtures; much more important is magnesium as the principal component.

Magnesium is an element belonging to the groups of the alkaline earths to which also belong calcium, stronium, and barium. Magnesium is very common and is found in very large quantities. It is made today almost entirely by electrolysis of waste products of the Stassfurt salt mines, especially from carnallit.

Magnesium is brought on the market either in form of powders of different degrees of fineness, or in form of tape and wire or rods and cubes. Freshly made magnesium has a high metallic lustre and looks like silver. Magnesium melts at 800° C., and vaporizes at red heat. It is this quality of magnesium to vaporize at such a low temperature that forms the foundation for its use as a source of light in photography. It combines easily with oxygen, forming magnesium oxide, MgO.

If the conditions are such that combustion is preceded by vaporization of the material, the formation of a flame will be observed. This flame emits principally blue and violet rays, and magnesium powder, according to Eder (*Jahrbuch für Photographie und Reproduktionstechnik*, 1891, p. 441, etc.), is of all so far known artificial sources of light the only substance that will produce with quickest combustion the relatively strongest chemical effect on silver bromide gelatine.

The application of magnesium in tape form is much less economic. In combusting magnesium tape in the open air lack of oxygen, according to Christomanos (*Ber. deutsch. chem. Gesllsch.*, xxxvi, p. 2076), will cause a considerable waste of material in form

of uncombusted metallic vapor. On the other hand, Christomanos found that when the proportions of the flashlight are chosen favorably the whole amount of magnesium will be consumed and converted into magnesium oxide.

When magnesium is blown into a flame in the form of powder it is changed into magnesium vapor, and provided there is a sufficient quantity of oxygen present, complete combustion of the magnesium will take place.

The actinic effect developed during the unit of time, according to Eder, is not as great as that of flashlight mixtures. During the first stage of development of magnesium flashlight photography, magnesium was preferably applied in form of blowlight by simply blowing the magnesium powder through a flame. This kind of application requires under any condition the use of a so-called flashlight lamp and the flash produced in this way is of so long a duration (one-third second) that its use for portrait photography is in many cases unsatisfactory. For this reason the interest of photographers was drawn more and more to

Flashlight Mixtures,

with which we shall occupy ourselves more thoroughly in the following:

When a small pile of magnesium powder is ignited it will combust slowly without a flame. A lack of oxygen does not allow the temperature to rise to a point high enough to vaporize magnesium in sufficiently large quantities. If, however, magnesium powder is mixed with chemicals containing oxygen in such a form that heat will easily liberate the same, the reaction will start in the very beginning with so intense a heat that magnesium powder will be changed into vapor as by an explosion, and be combusted under development of a most powerful light, partly by means of the oxygen contained in these chemicals, partly on account of the oxygen in the air.

Magnesium may be oxidized or combusted by means of a great many chemicals containing oxygen. In most cases, provided the proportions of the mixture are favorable, the reaction will take place under development of a flame. The following chemicals or oxygen compounds seem to be predestinated for this purpose: Chlorates, perchlorates, nitrates, persulphates, permanganates, chromates, peroxides, etc., chemicals that contain oxygen entirely or partly endothermic.

These compounds that give off oxygen very readily are the ones that have been used in experimenting with flashlight photography from the very beginning. We wish to mention, however, that a large number of chemicals have been recommended for flashlight photography in which oxygen has been coupled by exothermic reaction, as in sulphates, many metallic oxides, etc., where oxygen is bound much firmer.

Modern flashlight photography expects a good magnesium flashlight to fulfil quite a few conditions, and our choice of oxygen carriers is narrowed to comparatively a few that will answer the purpose in every respect.

We are interested only in the following most essential points:

1. Actinic effect (power of lighting).
2. Rapid inflammability (speed).
3. Development of smoke.
4. Degree of harmlessness of developed smoke for respiratory organs.
5. Degree of freeness from danger of the ready-mixed flashlight powder.

Chlorate of Potassium

Gædicke and Miethe were the first to experiment with chlorate of potassium as an oxygen provider during the eighties. These investigators have enriched the technique of photography by a very important process that is known today as magnesium flashlight photography. Even today there are some flashlight mixtures on the market that contain chlorate of potassium. Such mixtures, however, are in a general way not very recommendable, as a mixture of finely powdered magnesium and chlorate of potassium is very sensitive to pressure or shock, and even slight heating will cause a terrific explosion, and the number of accidents caused by such mixtures is quite considerable.

The photochemical effect of the magnesium-chlorate mixture is enormous; the rapidity according to Eder and Valenta (*Jahrbuch für Photographie und Reproductionstechnik*, 1892, p. 373) is from one-tenth to one-twentieth of a second. The development of smoke is very annoying. The smoke is not exactly harmful to the respiratory organs, as products of combustion consist only of magnesium oxide and chloride of potassium, according to the following equation: $3Mg + KClO_3 = 3MgO + KCl$

Perchlorate of Potassium

Soon after Gædicke and Miethe had aroused the interest in magnesium flashlight among photographers, it was tried to replace the objectionable chlorate of potassium by some other oxidizing agent. As the first substitute perchlorate of potassium, $KClO_4$, entered the field. Professor Dr. Müller used it in making his magnesium light pictures of the interior of the Hermann's Cave near Rübeland (1889). Perchlorate of potassium has the great advantage over chlorate of potassium that its mixtures are less explosive. The photochemical effect is the same as the one produced by chlorate of potassium.

The observations of the speed differ with the different investigators, which proves that it probably depends on the fineness of the pulverized ingredients. Hauberisser is probably correct when he claims that a mixture with chlorate of potassium combusts somewhat more rapidly than one that was made with perchlorate (*Jahrbuch für Photographie und Reproductionstechnik*, 1901, p. 72). The development of smoke with perchlorate of potassium is just as bad, but it is not really harmful to the respiratory organs.

Permanganate of Potassium

Eder and Valenta published in 1891 some of their experiences in experimenting with permanganate of potassium. They found the most favorable proportion to be 1 part magnesium and ¾ to 1 part permanganate (*Jahrbuch für Photographie und Reproductionstechnik*, 1892, p. 372), and were the first to discover that the photochemical effect of a flashlight mixture decreases when the rapidity of the combustion exceeds a certain limit.

They observed that a mixture of, for instance, 1 part magnesium and 3 parts permanganate of potassium, which combusts with an explosion, has a smaller photochemical effect than a mixture containing less permanganate and consequently combusting less rapidly, and they recognized that the cause of this is due to the flashlight powder being thrown around and wasted on account of explosive

combustion. The photo-chemical effect is about the same as that of the mixtures containing chlorate or perchlorate of potassium, provided the rapidity of combustion is about the same. Permanganate flashlight is considered comparatively free from danger. There is a considerable development of smoke, of a kind that is quite objectionable; no matter what proportion might be used, the combustion always forms products that effect the respiratory organs.

By using a larger proportion of permanganate, forming a mixture of high rapidity, the permanganate will be reduced to manganate of potassium (Hauberisser, *Jahrbuch für Photographie und Reproductionstechnik*, 1901, p. 68, etc.), which is a strongly alkaline product. By taking a mixture containing less permanganate the reduction will go further, and the products formed by combustion will be, according to Eder and Valenta, the very harmful caustic potassium—manganese oxide and magnesium oxide. It also might be mentioned here that, according to experiments made by the author, mixtures of magnesium powder with manganese oxide combust with a flame, by which manganese oxide is reduced.

Peroxide of Manganese

In the earlier part of the last decade the Farbenfabriken vorm. Friedrich Bayer & Company, of Elberfeld, put a flashlight powder on the market which contained peroxide of manganese as an oxidizing agent (Patent No. 136313 Kl. No. 78, of September 15, 1901). Permanganate of manganese is closely connected with the above-mentioned manganese compounds, and it can be easily made from them. Mixtures made with this product are considered dangerless.

The advantage of peroxide of manganese over permanganate of potassium is in the less harmful character of the smoke developed in combusting mixtures of this kind; it has not a caustic effect on the respiratory organs. The smoke is of a brownish color.

Other peroxides—barium, calcium, and magnesium peroxides—have been tried for the same purpose, but they have never been used to any extent in photography.

Sulphates

Sulphates have also been recommended as oxidizing agents. Patent No. 205499, of July 26, 1904, employs desiccated chrome alum ($K_2SO_4Cr_2[SO_4]_3$) or desiccated copper sulphate, $CuSO_4$. York Schwarz and Dr. Wilhelm Knauer compounded mixtures of magnesium and indifferent substances, like calcium carbonate, magnesium carbonate, magnesium oxide, borax, potassium alum, barium sulphate, boric acid, silicic acid, in order to reduce the development of smoke (Patent No. 101528, of January 16, 1899). In a more recent patent, No. 111155, of April 15, 1900, York Schwarz employed mixtures of magnesium, calcium, barium, strontium, and magnesium sulphates.

According to Novak mixtures of this kind are not explosive and show less development of smoke than the ordinary flashlight mixtures. We wish to mention here, that the almost smokeless mixtures of the Agfa with nitrates of the rare earths were not known at that time. According to Novak the duration of combustion of a mixture of 2-grain magnesium and 2.5-grain gypsum (calcium sulphate) is almost .one-quarter second. Calcium sulphate is reduced to calcium sulphide: $CaSO_4 + 4Mg = 4MgO +$

CaS. In combusting mixtures of magnesium and sulphates the author noticed always the disagreeable odor, peculiar to many sulphides, in the developed smoke.

Persulphate of Potassium

According to Janko (*Photog. Rundschau*, 1896, p. 28) 1 part magnesium and 2 parts persulphate of potassium form a mixture that combusts rapidly, but develops as much smoke as the rest of the then known flashlight mixtures. The greater rapidity of the persulphates in comparison with the sulphates confirms again the fact that compounds, containing oxygen entirely or partly endothermic, are the main substances to be considered for the manufacturing of flashlight mixtures.

Chromates

Eder and Valenta tried mixtures of magnesium and bichromate of ammonium and potassium as early as 1891. They mention that the combustion is comparatively slow. On account of the poisonous character of the smoke, the chromates have to be considered unfit for the preparation of flashlight mixtures.

Nitrates

The nitrates are taking the first place today as oxidizing agents for magnesium flashlight mixtures. As even the lower oxygen compounds of nitrogen, nitrous oxide, N_2O, and nitric oxide, NO, are endothermic and easily give off their oxygen, the reaction of the nitrates is a very complete one, provided the proper proportions are used in compounding the mixtures. Experience has taught that a mixture of 1 part magnesium and 1 part nitrate is the most favorable one. For 1 molecule potassium saltpeter four atoms of magnesium will be necessary and the reaction can be expressed according to the following equation: $KNO_3 + 4Mg = 3MgO + KNMg$.

This equation takes for granted the formation of potassium-magnesium nitride. There is every reason to believe that indeed nitrides are formed under the given conditions. Many nitrates are so hygroscopic as to deliquesce in the open air. Nitrates of this kind are unsuitable for the preparation of flashlight mixtures.

(*a*) Potassium nitrate (saltpeter).

Eder and Valenta found in 1891 that a mixture of 1 part magnesium and 1 part saltpeter is very well adapted for the preparation of flashlight mixtures. Mixtures of magnesium and potassium nitrate are considered comparatively dangerless.

Novak tested a large number of flashlight mixtures, containing nitrates, in regard to their photochemical or actinic power, their rapidity of combustion and their development of smoke (*Jahrbuch. für Photographie und Reproductionstechnik*, 1908, p. 372, etc.). He found that a mixture of 1-grain magnesium and 1-grain potassium nitrate develops only one-fifth the amount of actinic power of the above-mentioned mixture of 1-grain magnesium and $\frac{3}{4}$-grain permanganate of potassium. The rapidity of combustion of the nitrate mixture was found to be 0.070th of the permanganate mixture, that is, 0.120 of a second. Of all nitrates that were examined, nitrate of potassium develops the largest amount of smoke.

(*b*) Ammonium nitrate.

Lainer examined this nitrate (*Jahrbuch für Photographie und Reproductionstechnik*, 1899, p. 313, etc.), along

these lines, presuming the combustion of ammonium nitrate to take place according to the equation:

$$NH_4NO_3 + Mg = 2H_2O + N_2 + MgO$$

where magnesium oxide forms the only solid part of the smoke. He found very little development of smoke. Ammonium nitrate is very hygroscopic, however, which is objectionable in its application for flashlight photography.

(*c*) Nitrates of alkaline earths.

According to Patent No. 133690 both nitrates of alkalies as well as the nitrates of alkaline earths are employed for the preparation of flashlight powders in conjunction with aluminium and magnesium. Novak claims in his above-mentioned treatise (*Jahrbuch für Photographie und Reproductionstechnik*, 1908, p. 372, etc.), that the amount of actinic power of 1-grain magnesium and 1-grain barium nitrate is only one-third of the amount developed by the permanganate mixture of 1-grain magnesium + $\frac{3}{4}$ grain $KMnO_4$. Strontium nitrate has a somewhat higher actinic power; it is, according to Novak, about one-half of the above permanganate mixture.

(*d*) Nitrates of the rare earths.

Development of Flashlight Photography by the Discovery of "Agfa-blitzlicht"

Magnesium flashlight photography was considerably furthered by Dr. G. Ollendorg's observation that the nitrates of the rare earths (thorium oxide, cerium oxide, zirconium oxide, etc.), in mixture with magnesium and aluminium yield flashlight mixtures which, in regard to actinic power and insignificance of smoke development, surpass every so far known mixture (Patent No. 158215 of the *Actien-Gesellschaft für Anilinfabrikation*, of May 30, 1903). Novak discovered (*Jahrbuch für Photographie und Reproductionstechnik*, 1908, p. 372, etc.), that the actinic effect of a mixture of 1-grain magnesium and $\frac{1}{2}$-grain thorium nitrate is ten times as great as that of a mixture of 1-grain magnesium and 1-grain potassium nitrate and twice as great as that of the mentioned permanganate mixture of 1-grain magnesium and $\frac{3}{4}$-grain permanganate of potassium. Novak further points out an interesting regularity or relation existing between the amount of developed smoke and the produced actinic effect in nitrate flashlight mixtures. According to this a thorium nitrate mixture of 1-grain magnesium and $\frac{1}{2}$-grain thorium nitrate will produce only one-tenth the amount of smoke of that of a nitrate mixture of 1-grain magnesium and 1-grain potassium nitrate.

The nitrates of rare earths have already been used for several years by the Actien Gesellschaft für Anilinfabrikation in manufacturing the "Agfa-Blitzlicht."

According to Professor Dr. Miethe's statements the developed amount of smoke of 1 grain of a magnesium-thorium mixture is about equal to that of $\frac{1}{10}$ grain of a chlorate of potassium mixture. Referring to the same authority, we learn that the rapidity of combustion of a magnesium-thorium mixture is a little less than one-thirtieth of a second. Hans Schmidt expresses himself in his above-mentioned book in the following manner: "Agfa-Blitzlicht powder combusts with a very remarkable rapidity; for 1-grain powder it will take one-thirtieth of a second." This is a speed that has been found practicable for all kinds of exposures, including all such instantaneous exposures which, when

taken by means of a rapidly working shutter, require less than the full amount of actinic power at our disposal.

Referring to Dr. G. Krebs, the lowest limit of the duration of combustion is one-twenty-eighth to one-thirtieth of a second; it should not go beyond one-twelfth of a second for portrait exposures (*Jahrbuch für Photographie und Reproductionstechnik*, 1901, p. 139).

Professor Dr. W. Scheffer tested ten different samples of flashlight powders on the market in regard to their actinic power (the results of his experiments will be published by him shortly), and found that 1-grain "Agfa-Blitzlicht" produces the effect of 70,000 second meter candles, while the next best flashlight produces only 48,000 second meter candles, and most of the powders on the market only about 25,000 second meter candles.

The great actinic power of the "Agfa-Blitzlicht" is quite evident, if one considers that the nitrates of the rare earths are reduced during the combustion of the magnesium powder and that the earths (thorium oxide, cerium oxide, etc.), are suspended in the flame at white heat, making use of these rare earths in a similar manner as the Aner-gaslight or the Welsbach mantle, where they are employed for the same purpose—that is, to render a flame, which is non-luminous in itself, highly luminous.

If we have, therefore, a very plausible explanation for the great power of the light produced by the "Agfa-Blitzlicht," we do not know exactly why the development of smoke should decrease with the photochemical effect increasing. Undoubtedly the fineness of the dispersed products of combustion in combination with the transparency of the flame play a very important part in this matter.

In the "Agfa-Blitzlicht" equal parts of nitrate and magnesium are employed, which means that for 1 molecule of thorium nitrate not less than 20 atoms of magnesium should be taken. In this case, too, the reaction of the nitrate probably takes place under formation of a thorium-magnesium nitride, which does not escape into the air in this form, but is subjected to combustion.

1. $Th(NO_3)_4 + 20Mg = 12MgO + ThN_4Mg_8$.

2. $ThN_4Mg_8 + O_{10} = ThO_2 + 8MgO + N_4$.

Equation 2 presupposes the participation of the oxygen of the air in combusting the flash powder; this is, indeed, always the case according to Hauberisser (*Jahrbuch für Photographie und Reproductionstechnik*, 1901, p. 70).

The application which smokeless flashlight mixtures have found in practise is of great importance in the first place on account of the large number of exposures that can be made, one right after the other.

I have a spontaneous testimony regarding "Agfa-Blitzlicht" before me, rendered by a well-known photographer of Hamburg, reading:

"Some time ago, for instance, I made 32 exposures with Blitzlicht, one right after the other, without the slightest annoyance by smoke. At some private occasion I took nine pictures with "Agfa" in a medium-sized room without noticing the least amount of smoke."

In this above-quoted treatise Novak claims in regard to cerium nitrate that the same cannot be employed for flashlight mixtures on account of its slow combustion. This statement is contradictory to practical experience with "Agfa-Blitzlicht," for which cerium nitrate is used. I imagine Novak must have had some rather objectionable cerium nitrate at his disposal.

(To be continued.)

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LONG VERSUS SHORT FOCUS LENSES IN THE STUDIO

BY RICHARD PENLAKE

THE question often arises, What is the best focus of a lens to be used in the studio for portraiture? There are of course many opinions on the subject and not a few professional photographers, particularly the older hands, have no knowledge whatever of the focus of the lens they are using and have in fact, perhaps, been using for years. They know the lens produces salable and satisfactory portraits, and they are content. It is the modern man who worries more when choosing a lens, chiefly because he has a far larger choice than the older hand had when he commenced business.

The photographer is often told that the question of focus is not important enough to bother about, and that if one places the eye at the distance of the focal length from the photograph being inspected, all will be well and no distortion seen. Such, however, is not always the case, as Dr. Emerson, the most quoted of all critics, points out. One may prove it by taking a lens of short focus and photographing any suitable object placed near the camera, and he may then place his eye at the distance of the focal length, and if he be a true artist he will immediately detect that the drawing is false.

The misuse of a lens is what leads to the production of so many photographs false in drawing. Fig. 1 is a life-size bust of Clytie taken with a lens of five inches focus on a quarter plate, while Fig. 2 was taken with a lens of twelve inches focus, the lens being on a level with the chin in each case. For Fig. 1 the camera was quite close to the bust, the shoulders therefore are distorted considerably. The use of the longer focus lens necessitated taking the camera a greater distance away, and as a result the shoulders are more true and the whole in better perspective. The same would of course have been the case had a living model been used. An even more distorted effect might be obtained in the latter case, as the shoulders of few living models are so perfect as those the sculptor has modelled in the cast.

The question as to what proportion the focal length of the lens should bear to the longer side of the plate, so as to give approximately true perspective delineation, is a matter of some slight controversy. Emerson, Dallmeyer, and other authorities say the proportion should be as two to one; that is to say, the focus of the lens should be, as a rough working rule, twice as long as the base of the plate, and the result has been arrived at by making a series of drawings on the ground glass of the camera and comparing them with the perspective of the image as thrown thereon by the lens. This is a fairly safe rule for landscape work, but for portrait work in the studio I prefer to take the diagonal of the plate rather than the base, and to use a lens when possible of twice the diagonal measurement. All studios, however, will not permit of this when full-length figures and groups are to be photographed, although for head and bust work it may be possible.

During a round of visits recently to some studios I was rather surprised at the shortness of focus of some of the lenses in use. Only in one studio—that of Mr. Essenhigh Corke—did I find a portrait lens of extra-long focus in use. I did not ask the measurement, but it appeared to be from 16 to 20

inches. Many of the middle-class professionals appeared to favor a focus of 8 inches, a focus much too short for cabinet heads. In order to obtain good perspective or "drawing" in the latter, and, say, for a two-inch head, 15 inches focus is certainly not too great. Where space is limited, as it is in many studios, the focus of the lens must not be too long if three-quarter and full-length pictures are to be produced. Eight inches focus is the shortest that should be employed for the latter poses, and when using such a lens particular care is necessary in posing in order to avoid violent perspective. A useful hint with such a lens is to have the camera rather low down when photographing a standing figure; if the point of view is too high the floor will be represented like a sloping roof, and the sitter may have the appearance of sliding off it.

Most photographers are aware of the fact that the likeness of the sitter is affected to some extent, in addition to what is generally looked upon as the orthodox distortion, by the focus of the lens employed. During last winter, when lecturing on portraiture, I showed at many societies a set of forty-eight studies of one model's head, the majority being taken with lenses of different focus varying from 3 inches to 26 inches on a half plate, and many were surprised at the varying results obtained. In order to demonstrate the matter properly the model accompanied me in most cases and posed before the audience.

FIG. 1

FIG. 2

The length of the studio has, of course, to be taken into consideration when selecting a lens, and should a photographer only be able to afford one it would be folly to purchase a portrait lens of extra-long focus for head and bust work, which would be useless for taking small full-length figures if the length of the studio were limited. A far better plan would be to purchase the longest focus modern anastigmat lens it were possible to use for full-

length figures and to use one of the single combinations thereof for head and bust work. Such a lens would not be so quick as a portrait lens of the Petzval type, but with the rapidity of modern dry plates the speed obtainable with an expensive portrait lens is not so necessary as it was in days gone by.

The greatest speed is obtainable with a portrait lens of the Petzval type, some of which work very well at *f*/3 but with such an aperture sharpness must not be expected much outside a circle of a diameter equal to a third of the focus. The use of smaller stops will increase the dimensions of this circle bounding the area of sharp definition, but with any stop likely to be used in the studio a portrait lens will have very poor covering powers compared with the modern anastigmats, and when smaller stops are used the speed of the lens is of course diminished and the working value of the lens in practice is brought down to the level of those of a cheaper and more useful all-round type.

All users of the older form of portrait lenses know that when taking a full-length figure it is at times impossible to get reasonably good definition in the centre of the picture at the same time as the head and feet are in focus—the reason being due to the curvature of field in the Petzval type of lens. With an anastigmat the definition is uniform, and such uniformity is highly desirable today when one gets so many orders for enlargements.

When consideraing the subject of focal length it must be remembered that equivalent focus is not the same thing as back focus, a necessary caution, as, in persuance of an old system not yet dead, it is the custom of some lens-makers to give in their lists the back focus when describing portrait lenses, though it is not done with other kinds. Some makers give the necessary length of the studio required for certain lenses, but here also is caution required. In a catalogue before me I find it stated among other things, that in order to render a six-foot standing figure four inches in height with a lens of twelve inches focus, a studio measuring nineteen feet will be required; but the space behind sitter and background and that between the lens and focussing screen is not taken into consideration, neither is the working space for the operator, and at least another five feet should be added, making the length of the studio twenty-four feet. To produce a c.d.v. of the same standing figure—say a three inch image on the screen—would necessitate taking the same camera and lens back at least an extra six feet from the sitter, a mighty consideration to owners of small studios, who may not have a space of ten yards or more to work in, as Mr. Essenhigh Corke, Mr. Furley Lewis and other famous portrait workers have.

The following table gives the distance in inches that a sitter six feet in height should stand from a given lens in order to produce an image of a given size:

Height of figure in inches

Focus of lens	3 in.	4 in.	5 in.	6 in.	8 in.	10 in.	12 in.
8	200	152	123	104	80	65	56
10	250	190	154	130	100	82	70
12	300	228	184	156	120	98	84
16	400	304	246	208	160	131	112
20	500	380	308	260	200	164	140
24	600	456	369	312	240	196	168

Example: Suppose lens used to be sixteen inches in focus and a full length figure of four inches be required. Look in the left hand column for focus of lens and in top line for size of image. In the intersection of these columns we find 304 inches, the distance at which a person must stand from the lens.

The above example is perhaps an

unusual one, as although many may use a sixteen inch focus lens for a head, few will have a studio long enough to take a full length figure with such a lens. A lens of half the focus, eight inches, might be more useful, as a studio of only half the length would be necessary, and should such a lens be of the convertible type the single combination might be used for the bust with advantage, as eight inches is much too short for a bust portrait.

SOME THOUGHTS ON PRESENT-DAY PORTRAIT PHOTOGRAPHY. OVERCOMING THE INVITATION BUSINESS

WHILE many photographers have experienced the disquieting sensation of seeing their business passing either to those making the cheapest class of portraits or to others doing a much higher grade of work, they have, at the same time, frequently been harassed by the form of competition the nature of which is summed up in the word "invitation." It is surely unnecessary for us to define it further. Scarcely a master or assistant but must be familiar with that form of solicitation which is half flattery and half cadging, and is based on the proposition that a sitter comes to the studio, is the subject of a sitting, and is supplied with proofs, if not with finished print; and all on the understanding that he, or she, is under no obligation to spend a penny piece. Regarded purely as an abstract business transaction, a commercial policy of this kind would be placed by an accountant as in the highest degree of doubtful value in yielding profitable results. Photographers in the past have no doubt been led to form a contrary opinion from the fact that such "invitation" methods were the warp and woof of businesses which they had every reason to regard as successful: which no doubt have been successful. But, in taking this view, it is easy to forget that while the originators of this form of business might at first score well, their imitators—multiplied by the hundred—could hardly hope to do the same. In fact, the general public is beginning to realize the true inwardness of these offers, and the dispenser of "free" sittings now runs the risk of driving away good clients, and attracting an unremunerative clientèle of "deadheads." Nevertheless, we fear the profession will be further damaged in reputation before the unwise nature of this practice is fully recognized, and photographers cease to endeavor to out-maneuver each other by methods injurious to their fellows and of doubtful commercial value to themselves. Unfortunately the mischief done is not limited to the good opinion of those individuals who, well placed in society, are generally the chief objects of solicitation. The idea spreads that photographers are to be found willing to do business on terms which any self-respecting artisan would scorn to accept. And such an impression, if unchecked, must do harm to the profession who does *not* invite, for he already finds that his less conscientious clients (who, of course, take care not to pay at the time of sitting) become more and more capricious, more and more difficult to please. They will affect to believe that free sittings are becoming the rule, and that an order may be given or entirely withheld at the pleasure of the sitter. There are mean-spirited people who deliberately exploit photographers in the towns they may be visiting in, and whatever

results they may get, try to evade a reasonable order for copies, and plead that they cannot sit again. This is all owing to the laxity of responsibility which has been suggested to them by photographers under the invitation system.

We are glad to notice a firm stand is being made by many of the best men who see the direct danger of unfair rejection of valuable work, and the indirect one of loss of professional prestige by the adoption of touting tactics. To men of spirit and ability invitation work is wrong and undignified. If not only increases the difficulties of business direction and necessitates endless explanations, and more or less mendicant and mendacious correspondence, but it leaves a feeling of distrust in the mind of the private sitter when he fully realizes that he has lost all control in matters of copyright and the use of his own portrait.

Then the photographer himself suffers in temperament by invitation work. A man of artistic sentiment cannot put forth his best powers with the knowledge that his time in the studio is possibly being wasted, that his abilities are being merely trifled with, and to a varying degree retouchers, printers, and other assistants come under the depressing influences that have started in the studio. In many establishments the question must constantly arise: "How much of this work is genuine business?"

It is a state of affairs which cannot inspire whole-hearted, careful service; rather it must tend to indifference, lack of originality, and to the undermining of that self-confidence which is essential to success in life. Meanwhile, a young generation of inexperienced photographers is being led to believe that wholesale invitations will bring them to the front and build up the financial position as well. We think such hopes are doomed to disappointment. Scores have tried it, have only injured their fellows, filled their rooms maybe with attractive specimens, but the harvest has failed, tares have strangled out the crop that was so eagerly anticipated and confidently counted upon. A few old firms of declining reputation, a few new ones, run in a spirit of ultra-commercialism, may continue to make some show of success with invitation work, but we think a business edifice supported on these lines must in the end share the fate of more material buildings whose foundations are laid in sand.

Let it not be supposed that we ignore circumstances in which there may be a legitimate purpose in the invitation system, for, in the case of acknowledged celebrities, it would be difficult for a photographer to carry on a publication business at all without that protection from piracy which the possession of the copyright affords. And, again, there are men and women in high social and political life whose portraits are of wide and general interest, so much so that they are in constant request for press reproduction. Such distinguished people are often averse to having commercial relations with the publishers of papers, and are content to recognize and even encourage a system which saves them a great deal of trouble, and at the same time pays the photographer the charge for sittings in the form of the press fees he may receive. And, indeed, in this connection one must acknowledge that without the constant activity of photographic publishing firms in seeking out such sittings, it is doubtful if future generations would secure so vast a store of valuable and interesting portraits of the public men of our day as now accumulates under the system of complimentary sittings.

But, having said so much, we feel

sure our article will not be misunderstood when we contend that the general prosperity of professional photographers must stand or fall with the support given by that large class we have agreed to call the *private sitter*. It is when the private sitter is approached with the suggestion that he is of public interest, and, therefore, need not pay for a sitting, that humbug and pretence begin. Men and women of abnormal vanity may succumb, but the ordinarily modest mortal will suspect a trick—perhaps even wonder which can be smart enough to finish as top dog. It is our view that high-class portraiture may be made sufficiently attractive in photography to make its own appeal to popular support without recourse to artifice. Acumen, progressive ideas, untiring energy, and the spirit of modern advertisement are qualities which men of business require in a high state of development to achieve great things; but confidence, earned and sustained among their clients, is also of vital importance.

We think that the majority of photographers should note with some satisfaction that there are signs—small, perhaps, but none the less distinct—that the favor extended by the public to the "invitation" method is decreasing. In the theatrical profession, for example, there has been, within the last few years, a marked change in the business relations of ladies of the stage with photographers who make portraits of them. It is now much more common than it was for an actress to pay for her photographs in the ordinary way, retaining the copyright in them. Such an arrangement is a more satisfactory one to many actresses who are then enabled to offer photographs of themselves to the Press for reproduction without the payment of a copyright fee. It may be sometimes difficult to convince such clients that the large number of poses often required must entail more expense than the ordinary sitting, but a photographer loses nothing by a clear statement of the position and a business-like arrangement either for a certain number of duplicates or a charge for the sitting and set of proofs.

But it is when we come to the conditions under which photographers in provincial towns have to work that a difficulty is felt in combating the invitation system. For years the leading photographers may have set their faces against it, and the public men have given their sittings locally, paying in the ordinary way for the best skill obtainable in their own districts. Then they learned the mayor, the J. P.'s, clergy, medical and legal men, accountants, are receiving invitations from London, from other provincial towns, even from their own town's photographers. What is to be done? Obviously, if all these people accept, they will be soon stocked up with proofs, possibly indifferent enough, but yet having the effect of minimizing or even extinguishing the desire to try further experiments. We think one way to meet this form of competition is to secure, if possible, an interview, or, failing that, to anticipate the invitation letter by a clever little note pointing out the advantages of the ordinary sitting, and enclosing, perhaps, with it a copy of the usual studio booklet or list of terms. We are strongly of the feeling that such frank statement of his policy on the part of the photographer, whenever opportunity opens will do much to strengthen his relations with his customers, and, by the exercise of discretion, need not necessarily deprive him of occasional profit by the sale of reproductions which is generally allowed if the portraits are considered satisfactory.—*British Journal of Photography*

OIL PRINTING

BY G. E. H. RAWLINS

(Concluded from p. 188)

Finishing the Print.

Now to return to the print. Start the hopping action, with the brush, upon it, and you will soon see a change taking place. The high lights will brighten up and the shadows will acquire greater richness, and the whole range of gradations will each take its proper value; and, in short, by working over the whole print, you will soon have an excellent straight print, possessing, however, a distinctive character of its own, along with almost unlimited possibilities of control. Try what you can do with it. Take up a fresh charge of pigment on your brush, and "hop" it very lightly over some of those sparkling little high lights which have always been so worrying to the eye in your previous prints from this negative. Now clear as much pigment as you can off the brush by rubbing it on a waste bromide or P. O. P. print (don't use ordinary paper—it would fill the brush with fluff—but any gelatine-coated paper is quite safe), and commence hopping with considerable vigor on that bit of distance which usually looks no further off than the foreground. As you thus lighten your distance, and cast a shadow over those innumerable points of light, notice how different is the effect you get from the result of attempting the same amendment on a gum print. If you are successful in washing down some part of the gum, you will find the values of that particular portion altered, and much of the detail will probably be destroyed where you did not intend. Moreover, if you overdo it, or make a mistake of any sort, your print is probably lost.

On the other hand, a similar mistake on an oil print can be at once corrected by simply reversing the process, or, indeed, the pigment may be entirely removed and replaced on any part or over the whole of the print. You may pigment it in one color, and, if you don't like it, take it off and do it again in another color. But the glory of the oil process lies in the possibility of *building up* any part of the picture without affecting the rest of it, and piling on the pigment locally to obtain points of emphasis or deep, dark shadows, at the same time retaining the proper relationship of the various values. There is absolutely no other process in which this can be done, except the multiple printing system in gum, which may, perhaps, place similar powers in our hands. But it is hardly comparable, for in oil printing the whole thing being directly under the hand, and completed exactly according to judgment in one operation, possesses certainty and spontaneity in the result, which is quite impossible in the lengthy, laborious, and roundabout procedure of multiple gum.

An Alternative Method

I have already mentioned an alternative method of pigmenting the prints. It is really more typical of oil printing, as it consists of building up the image from the first, instead of smothering it in pigment to begin with, and digging it out again afterward; but for many subjects it is more laborious, and so I recommend beginning with the other. If, however,

the subject be very light, the case is reversed, and it is easier to put on the little pigment required than to remove that which is not wanted. You charge the brush by hopping it on the palette, and then, instead of dabbing, you *hop* it on the print. Now the picture grows out on the white paper, and, personally, I think that it is more perfectly controlled and more luminous than if made in the other way. Of course, dabbing can be resorted to at any moment, and will often be useful to "resolve" some portion which may have got a bit clogged up.

Experiments

You will soon find, if you experiment a little, that there are numerous ways of getting a great variety of effects, and that the pigment has some quite surprising little peculiarities. If you take an ordinary artist's oil paint-brush and whisk it lightly across the print, the high lights will jump out vividly and lose their fainter gradations, but the shadows will either increase a trifle in depth or remain almost unaffected. But if you use the same action on a dark portion where there are no high lights, and press a little harder, you will quite gradually rub the pigment off, leaving a slightly granular light patch. By hopping over this, with a dabber fairly free from pigment, the granularity will disappear, and, though the patch will become slightly darker, it will remain lighter than its surroundings. This is, of course, very frequently useful, and different brushes may be employed to get various modifications of this effect.

If, instead of whisking the brush with a light and rapid motion, you drag it very slowly, with some pressure, across a given patch, the effect will be absolutely reversed. It will be as if you had actually *added* some pigment, although, as a matter of fact, it is only a change in its distribution which makes it look darker. Nevertheless, this likewise is often very useful.

You will soon find that you can get various effects by simply modifying the force of the hop action. If you lift the brush rather high, and *throw* it, as it were, at the print, the result is much more contrasty than a gentle, light hop gives. A $\frac{1}{8}$-inch-high hop will give a result akin to dabbing, and, though slower to get, it will be softer and less granular. Thus you have a wide range of scales of gradations ready to your hand, and you can vary and control them and use the whole gamut, if you like, in the same print.

No matter how careful you may have been to avoid fluff, the print is almost certain to have gathered up a certain quantity; but you may disregard it entirely, as it can be dealt with when the print is dry, or in the manner already described.

You can spend any amount of time over the pigmenting of a single print, for the work is most fascinating, and there is a distinct danger of not knowing when to stop! You think you can still further improve it, and so go on working after it has really reached completion, and until your best faculties are becoming a little exhausted.

Completing the Process

But very likely before you are satisfied with the result, you will notice a difficulty in getting contrast. This shows that the coating is losing water by evaporation, and you must then give the print another soak. Slip it, face up, right under the surface of the water in a deep dish or bowl, and leave it for ten minutes or so. Of course, all surface water must be blotted off before starting brush work again, but

this can be quite safely accomplished with a soft sponge, and the image should remain quite unaffected. You will, however, find it greatly improved in condition for further work. Sometimes, if a print does not seem to be working very "kindly" it is an advantage to set is aside for a bit, and when you come back to it, you will find the rest has improved it.

So soon as you are satisfied with the result, the print is practically finished —that is to say, there is no "fixing" or alum bath to mess with. It is only necessary to pin it up to dry. The water will dry out in a few hours, but the pigment requires rather longer to harden thoroughly. The exact time depends upon several circumstances, such as temperature and the hygroscopic condition of the atmosphere. Sometimes it will remain tacky for twenty-four hours, and at other times in five or six hours it will be quite hard. As soon as it is fairly hard, however, is the best time for getting rid of any *debris* that may have collected. Most of it may be removed by merely rubbing the surface gently, but a few tiny hairs may resist this treatment. They can, however, be easily removed, and, incidentally, a good deal of retouching effected, if desired, with a needle or the sharp tip of a penknife blade. At this stage, also, white spots may be touched out with a little pigment applied with a pointed stick.

The enthusiastic worker will find out a thousand and one little dodges for getting the special effects he requires, and these I have not attempted to describe; but there are two things against which I feel I must warn beginners in this process: don't attempt to thin the pigment with turpentine or other fluid, and don't use a roller of any description with the idea of saving time. Take plenty of time over every operation if you want to be successful in oil printing.

PICTORIAL LENSES IN AMERICA

BY ARTHUR HAMMOND

FOR many years photographers have been looking for a means of expressing their ideas in camera pictures without the biting sharpness of definition and the over-elaboration of detail which are so frequently to be found in pictures taken with what is commonly regarded as a good lens. It is true this wiry sharpness is, to some extent, a matter of lighting and exposure. In a fully exposed negative extreme sharpness is not nearly so bad as in one that is ever so little under-exposed.

Many and varied are the dodges and devices invented for securing soft results, such as enlarging through bolting silk or printing through a reversed negative; but, though these methods often give very satisfactory results, I cannot but think it is better to get the effect desired at the start in the negative.

When using an anastigmat in taking a small negative, it is really quite a difficult affair to get soft definition where it is wanted.

Suppose we focus on one particular object, we get not only that particular object sharp, but also any other objects that happen to be in the same plane. If we get the background out of focus, we are apt to get parts of it too much out, and have ugly blobs and circles of confusion instead of softness.

We can use a single combination of a R.R. lens or a single landscape lens, in-

stead of a more highly corrected objective; then we get softness, but it is merely softness, and there is no quality to it.

It seems strange that in England, where pictorial photography has reached such a high standard, there should be comparatively few lenses designed for pictorial work; whereas in America, which is as yet too young for art to have become a dominant factor, there seems to be much more done to help the photographer who is an artist, and who uses a camera with which to express his ideas, instead of brushes and a paint-box.

There are comparatively few pictorialists in America. The amateur photographer on this side starts, as a rule, with a Kodak, and "You press the button, we do the rest," is the usual method of picture making.

The "photo-finishing" businesses are conducted on a gigantic scale. (I know what these places are like, being employed in one for a time when I first came over.) Hundreds of rolls of film are developed and thousands of prints and enlargements are made daily It is really surprising where they all come from; it makes one think, and helps one to realize the enormous population.

A few amateurs do their own finishing, but as soon as they know enough about it, they do work for other people, and get orders for all kinds of commercial photography in their spare time.

Photography is commonly regarded, not as an art, but as a means of making money. Postal cards are the first thought when a man is seen carrying a camera, and many a time on my wanderings in search of pictorial subjects I have been asked to take pictures of all sorts of things—houses in course of construction, horses, dogs, etc.—and to quote a price for nice glossy prints on postal cards. Art for art's sake is regarded as a crazy notion, and pictures softly focussed and showing any artistic merit are appreciated by only a few.

Photographic clubs and societies do not flourish here as in England. Even in New York City there are but half a dozen such societies, including the Camera Club, with its 225 members, and the Photo Secession. In Boston, Philadelphia, Chicago, and other big cities there are only one or two apiece.

The "American Annual" gives a list of fifty photographic clubs in the whole of America and Canada. In England every little town and village has its camera club, and the number of such organizations in London and its suburbs alone would probably equal the total number in the United States.

Under the circumstances, therefore, it is somewhat surprising that there should be so many different lenses imported and manufactured for purely pictorial purposes, for there are quite a number of them. We have here the Dallmeyer, the Bergheim, the Cooke R. V. P., as you have in England, and in addition to these we have the Pinkham and Smith Semi-Achromatic, the Spencer "Port-Land" lens, the "Verito," and the Gundlach-Manhattan Achromatic Meniscus.

These latter, with the exception of the "Verito," are single lenses. They are fully corrected for chromatic aberration, but are not fully corrected for spherical aberration.

The Spencer "Port-Land" lens works out at an aperture of *f*/4.5, and when used wide open gives a very soft image, which can, however, be controlled by the diaphragm, so that at about *f*/11 the image is practically sharp.

The "Smith" lens and the Gundlach-Manhattan Company's lens work at about *f*/6.

The "Verito," introduced by the

Wollensak Optical Company, is a doublet working at *f*/5.

The "Smith" lens (as it is commonly called, after its maker, Mr. Henry S. Smith, of Pinkham and Smith Company) was the first to be put on the market. It was made to meet the desires of Mr. F. Holland Day, and was intended to give an image as near as possible to that obtained by a small pinhole, Mr. Smith's idea being to try and control, rather than eliminate, the chromatic and spherical aberrations.

The Spencer "Port-Land" (*por*trait-*land*scape) lens was worked out quite independently by Mr. Wm. H. Kunz, formerly of Buffalo, now located in Boston. It was made for him by the Spencer Lens Company, of Buffalo, and has been only recently put on the market.

The "Verito" is quite new. It is, I believe, an adaptation with improvements of the Bodine Pictorial lens It is a doublet, and while it is intended to give a soft atmospheric image, it is claimed to be free from "ghost," flare, or distortion.

Such lenses as these are very delightful to use for pictorial work. They need some care and skill in focussing, and one has to get used to them. There is much scope for individuality, for one has control over one's results, both in focussing and in regulating the diffusion.

The Depth of Focus Problem

Owing, no doubt, to the fact that there is no abrupt change from extreme sharpness to slight diffusion—as with other lenses — the Semi-Achromatic lenses seem to possess an unusual amount of depth of focus. At a moderate aperture, about *f*/8, one can get a very even quality of definition throughout practically the entire depth of field. The foreground, middle distance, and distance will all be clearly yet softly defined, there will be no plane uncomfortably sharp, and no meaningless and disconcerting blobs and circles of confusion.

This quality of even diffusion is just the chief virtue of the pinhole, and, therefore, with a semi-achromatic lens we can make pictures which display the undisputed excellence of good pinhole work without the accompanying drawbacks of lack of speed and the impossibility of studying the effect on the focussing screen.

Owing to the great apparent depth, we have some control in focussing, for it will be found to be possible to rack the lens in and out a little without affecting to any great extent the definition in any one plane. Thus we can regulate the quality of definition in the background, or the distance in landscape—we can have it clearly defined if desired, or we can rack out a little and have the distance softened and diffused and yet keep pretty nearly the same quality of definition in near-by planes.

Controlling the "Quality" of the Image

The general quality and character of definition, from very soft to pretty nearly sharp, can be controlled by the diaphragm, and the quality of the lighting must be considered. In soft, diffused lighting, such as one would get in the evening just before sunset, or on a cloudy day, a larger aperture can be used than is advisable in bright light.

In brighter and harsher lighting, the lens usually needs stopping down a little, otherwise the halation is apt to be too pronounced.

It is, naturally, quite impossible to lay down any hard and fast rules as to the manner of using these instruments;

every worker must find out for himself what is best under different conditions.

For portraiture, a soft-focus lens is practically a necessity, and I am pretty sure that anyone having once used such will never use any other kind.

Good Modelling Possible

With such a lens one gets modelling and roundness, and a very delightful differentiation of textures. It seems to discriminate between the essential and the unessential in a manner almost human. One gets all the character, the expression, the likeness, the shape of the features, the poise of the head, but one does not get the exaggeration of lines and wrinkles, the disconcerting accentuation of freckles and slight blemishes of the skin, the little cracks in the lips, and so on. All such things are softened and practically eliminated, and yet the general quality of definition is clear and distinct, not by any means fuzzy and incoherent.

When properly focussed, the picture seems to close up and become clearer and more distinct at a little distance, like a good impressionist painting.

Quite a number of the better class of professional portrait photographers in the States are now using these lenses in the studio. Not only do the pictures gain in quality, but there is a considerable saving in time and trouble, for practically no retouching is needed on such negatives. Such men as Elias Goldensky, Jack Garo, and others who are artists take full advantage of the facilities offered in the way of securing more artistic results.

The Lens does not Supply Brains

It must not be imagined that the mere fact of using a soft-focus lens will of necessity make the pictures artistic. Softness of definition *per se* is not art, and if the photographer is not an artist, and has no ideas, no individuality, to put into his pictures, the lens will not supply them; but no demonstration is needed of the fact that the camera in the hands of an artist is fully capable of producing pictures, and a lens such as I have referred to will be found more pliant, more amenable, more ready to express the artist's ideas than the mechanically accurate and more inflexible anastigmat.

There is so much scope for variation by control in focussing, that a scale and pointer are not very satisfactory to use with such lenses. The picture must be studied on the ground-glass, for many variations in effect are possible by turning the focussing screw and by regulating the diaphragm. I use my 11-inch "Smith" lens and my "9-inch "Spencer" on a 4 by 5 Adams reflex camera.

It is advisable always to give a pretty full exposure, and to use backed or double-coated plates. The backing or double-coating will tend to absorb some of the halation around the high lights, which many people might find objectionable.

To my mind this halation (which is seen only when a high light is opposed to a dark shadow, and not at all in the half-tones) is an improvement from the pictorial point of view. It softens down the edges and outlines, and prevents that "cut-out" appearance so prevalent in many photographs; and when the picture is viewed from a little distance, this halation practically disappears.

The Hope of the Straight-photographing Man

There is much satisfaction in the thought that one can make pictures that will be recognized as such by

purely straightforward photographic methods. The personal control of oil printing, ozobrome, and bromoil is invaluable in the hands of an artist, and yet the champions of these processes will not, if they are artists, deny the artistic possibilities of a straight bromide enlargement, for an artist will recognize a picture and will appreciate its good qualities even if it be made by a process he does not himself employ. I believe that the qualities that make a photographer "pictorial" should be embodied in the negative. The good lines and arrangement of the material must be there, and the tones and gradation should be there, for the rendering of tones and gradation, rather than detail, is the distinctive quality of photography as a means of artistic expression. If we can also get in the negative a little delicacy and discrimination in the drawing of detail, instead of soulless and mechanical sharpness, there is no reason why a "straight" print should not be entirely satisfactory. There is no doubt whatever but that in the hands of an artist the camera, properly guided and then trusted to do its own job, will produce a work of art. To the artist there is no such thing as mechanical photography; in his hands a camera may be just as susceptible to control as the brushes and pigment of the painter; his influence and his individuality will be apparent in his results. — *Amateur Photographer and Photographic News.*

PLATINUM AND ITS PHOTOGRAPHIC USES

THE earliest volcanic eruptive formations contained grains and small nuggets of the heavy metal platinum, and as these formations disintegrated, the heavy grains drifted into the water-courses, where they are now found; but we may conjecture that at the time of the original eruptions the bulk of the heavy platinum settled down far below the reach of man, only the small particles being carried up by the fused rock.

Hence it is that there appears to be no very great hope of finding large deposits of platinum.

Rise in Value of Platinum

Platinum appears to have been first recognized as a distinct metal by the Spanish settlers in the New World, who about 1735 stigmatized it as the small or comparatively valueless silver. (*Platina*, diminutive of *Plata*, silver.) Its export was forbidden, lest it should be used for adulterating gold, and the grains were used by the settlers as a substitute for buckshot, a fairly good use, considering that platinum is twice as heavy as lead.

As far as this country is concerned, we owe the introduction of platinum to Wood, a Government assay master stationed at Jamaica, who brought a quantity over in the year 1741. Although the metal resisted fusion, it was worked by forging and welding. Alloyed with from six to twenty-five parts of copper, it gave a fine alloy but little liable to corrode, and an alloy consisting of platinum one, copper four, with about as much arsenic as platinum, was occasionally used in making the mirrors of reflecting telescopes.

Early in the nineteenth century platinum was much valued as a material for making chemical vessels, and the metal began to have a definite commercial position and price, Mr. F. Accum, who kept an establishment for the sale of chemicals used for

experimental work, quoting "platina of commerce" at 5*s*. per ounce—this quotation being in a price list dated 1817.

Spurious Sovereigns now Worth More than £2

The fact that Accum (who merely kept the commercial or native metal in stock, to supply in small quantities to those interested in it from an experimental point of view) listed platina at 5*s*. per ounce certainly suggests that the original value or price where collected must have been trivial, and the price remained moderately low till about 1880. When I commenced systematic chemical work (1863) crucibles or utensils of refined platinum were charged at the rate of 25*s*. per ounce, but it was easy to buy platinum scrap suitable for dissolving at the rate of 12*s*. per ounce, and often for considerably less. During the period of moderately cheap platinum (1860–80) a large number of false sovereigns made of platinum and thickly gilt were in circulation, the detection of these being scarcely practicable as long as the gilding remained perfect.

Platinotype Processes Old and New

Platinum prints prepared according to the method of Willis or in accordance with any variations of this method must be regarded as completely satisfactory on the score of permanency, the image being formed of the so-called "platinum black;" that is to say, the metal platinum deposited by chemical reaction in a state of minute subdivision. The Willis method of photographic printing with platinum is the process now generally known as platinotype, and it is worked and exploited with great success by the Platinotype Company; but in the early days of photography the term "platinotype" was applied to a highly unsatisfactory process of printing in which a platinum mixture was the sensitive agent, and development was by means of a solution of mercurous nitrate. The image thus formed was mainly mercurial. I believe that all mercurial images are unstable, and the old dictum that "nearly all the platinotypes slowly fade in the dark" (Hunt's *Researches on Light*, 1844 edition, page 126) must be taken as applying to prints which differ fundamentally from the platinotype of the present day.

That the platinotype process of Willis has steadily gained in popularity and importance while the price of platinum has increased nearly twenty-fold, affords the best possible evidence of the inherent merits of the method; and I note a recent advertisement of the Platinotype Company in which they offer to produce platinotype prints at prices no higher than one might expect to pay for high-class silver prints. It is by no means difficult to understand this, as essentially and fundamentally the platinotype process is easier and less complex than printing out on a silver paper with subsequent toning; this being equally true whether the photographer sensitizes his own paper or whether he purchases the material ready sensitized. The trouble of the silver printer who occasionally makes platinotypes is mainly due to the difference of system, especially with respect to the conditions of dryness that are essential if vigorous and satisfactory platinum prints are to be obtained.

The Practical Outcome

Even at the present price of platinum the cost of the metal is by no means prohibitive, as in sensitizing

paper or cloth there need be no waste worth mentioning. An amount of platinum which at the present price of £8 12*s.* 6*d.* per ounce is worth about ninepence (0.12 gram or 1.952 grains) will sensitize twenty pieces of smooth paper each of quarter-plate size, and to sensitize this area, whether as completely sensitized sheets or as small patches on large sheets, it suffices if this amount of platinum is in hand in the form of chloro-platinite of potassium.

Thus it will be seen that a large surplus stock of the valuable metal is not required, as in the case of most silver processes. The above-mentioned amount of platinum is rather more than enough to produce a full-black tone all over the sensitized surface, and if the sheet were printed to a full-black tone all over, a certain amount of platinum would diffuse out into the developing bath. In practice, however, the average black area will not amount to half, and when platinotype printing is carried out on an industrial scale, two-thirds of the original platinum should be easily recoverable.

As an individual I may occasionally find it convenient to weigh out the requisite quantities of metallic platinum and metallic iron, and from these to prepare the exactly requisite quantity of sensitizing solution; this being quite an easy matter, even when the quantity required is merely enough to coat five quarter-plate pieces. But I am not in any way suggesting that the ordinary photographic practitioner should do otherwise than purchase the ready-sensitized paper.—THOMAS BOLAS, in *Amateur Photography*.

THE PHOTOGRAPHIC INDUSTRY

[THE photographic industry is in the nature of things a very secretive one. In the following paper read by Dr. C. E. K. Mees, of the Eastman Kodak Laboratory, and reprinted from the *British Journal of Photography*, we get a fairly clear conception of the present state of the industry.—ED. W. P. M.]

The position of the photographic industry among the chemical industries is a somewhat peculiar one. While essentially a branch of chemistry, the nature of the product and the methods of production are distinct from those employed in other chemical industries, so that the photographic industry has evolved a complete technique of its own, with its own machines, its own type of factory, and its own methods of testing the products, methods which bear little relation to the usual analytical processes of the chemist. Moreover, the photographic industry has from its origin been a secret industry, the working methods of which have never been published, and the technique of which is largely unknown to the majority of scientific men other than those of the industry itself. While, in spite of it, some factories have undoubtedly developed to a very high state of organization, this secrecy must also have reacted upon the industry as a whole, tending to inefficiency and a vast amount of unnecessary waste and difficulty, which the lack of free exchange of knowledge must bring in its train.

The industry at present is developed chiefly in England, America, France, and Germany, though there are a number of scattered factories in other

parts of the world. Climatic conditions, however, have tended to restrict manufacture to the temperate regions, although, at the same time, the fact that photographic products are, on the whole, unstable, causes constant attempts to be made to erect factories wherever a ready market can be found; and the centralization in selected localities, which is so typical of such industries as the steel industry, is less marked in photographic work. On *a priori* grounds it might be expected that the photographic industry would have been developed near districts producing its chief raw materials, glass, and paper. But a survey of the position brings out very strongly the fact that the history of the photographic industry is a history which hinges around men, and around very few men. Where the early manufacturers started, there the business has remained, and the new firms which have sprung up have mostly been offshoots from some one or other of the older factories; so that the two main original centres of the industry, as a whole, have been London in England, and Rochester in the United States, while in France, Lyons has developed as a great photographic centre.

The typical history of the photographic material business has been somewhat as follows: In the first place, we have an amateur, or, more generally, a professional photographer, making the materials which he required for his own business. Next, finding that the manufacture of the materials was more congenial or more remunerative than the pursuit of his own avocation, he supplied other photographers of his acquaintance, and then for a number of years may have carried on a small business employing three or four people, generally girls, and either making the emulsions himself, or, what was commoner, getting his wife to make them for him. It is an interesting fact that in most of the original photographic factories the emulsions were made by the wife or daughter of the owner, generally for the obvious reason that they could better be trusted than any outsider. With the replacement of hand coating by the coating machine came production on a factory scale. The owner of the business usually weighed out all the chemicals required, keeping the formulæ strictly to himself, and comparatively small factories organized on these lines have for many years been the backbone of the photographic industry; indeed, it is largely to such factories that we owe the high standard of product which has been reached today. But, as in all other businesses, the day of the small factory is practically over, and the future of the photographic industry is to the modern factory, employing hundreds of work people, manufacturing on a vast scale and at low costs, and using specially designed machinery at every step of the process.

It is difficult for those who regard photography as an occasional hobby to realize to what an extent it has developed as an industry; but even as a chemical industry it is not to be despised, as is evident from the fact that one factory in England alone orders its potassium bromide in thirty-ton lots, and that one company is the largest user of silver except a Government mint; that the production of the biggest English photographic paper factories is counted in miles per day, and of plates in acres. In this, as in all other industries, the question of the available supply of raw material is a serious one. Just as one of the great dye works refused to use toluol as the raw material for a new product because the world's production of

toluol was insufficient to supply the market, so one great photographic firm, after many costly experiments, abandoned a new paper, because the whole world's supply of fucose would not have kept them running for three months. And so today I may rightly claim that the photographic industry is not only a chemical industry, but it is a great chemical industry numbering its workers by the thousand and its products by the ton.

Chemical Nature of Processes Involved

The photographic industry is an industry based on colloidal chemistry, its nearest relatives among the chemical industries being apparently the production of rubber and of high explosives; although when looked at from the standpoint of factory organization no two industries could be more diverse than the photographic one and the explosives industry, the factory organization of photography being concentrated to a degree, while the dangerous nature of the explosives industry necessitates the segregation of almost every individual worker in a separate building; so that whereas an explosives factory may occupy a square miles or more of land, a photographic plate factory is simply a cubical block of building. The fact that the work is conducted in darkness renders arrangements for external lighting superfluous, the chief problem in the erection of a photographic factory being the supply of a sufficient quantity of pure dust-free air to all parts, by means usually of forced draught, with appropriate heating, cooling, and purifying appliances.

As by far the greater portion of the photographic industry deals with the light-sensitive properties of salts of silver, and as I have no practical acquaintance with those sections of the industry which deal with other salts than those of silver, I propose to restrict my remarks to the processes involving the use of silver compounds. Essentially the production of sensitive photographic materials relates to the behavior of silver salts when they are converted from the colloidal condition to the crystalline, the conversion being retarded and regulated by the suspension of the salts in gelatine, and complicated by the changes simultaneously undergone by the gelatine itself. Dealing first with the production of high-speed photographic plates —the branch of industry with which I have the most practical acquaintance—the process is briefly as follows: A concentrated solution of potassium bromide, usually dimolecular, is made, and to this is added a small quantity of gelatine, the amount being sufficient to prevent the complete deposition of the silver bromide when a concentrated warm solution of silver nitrate is added. Now, if instead of using dimolecular solutions, much weaker solutions, say, quintimolecular, are used and gelatine is added to the silver solution as well as to the bromide solution, then on mixing the two solutions the resultant mass will be quite transparent, showing only slight opalescence, and in such an emulsion the whole of the silver bromide will be in a state of colloidal suspension. With greater concentration of the solutions the bromide will be precipitated in a state of greater agglomeration, but it may be assumed that even with the concentrated solutions generally used for making emulsions, a certain amount of the silver bromide precipitated is at first in the colloidal condition. Now if the newly mixed emulsion is kept at a moderate temperature for a short time it will, as the emulsion maker says, "go over,"

this "going over" being manifested by an increase in the optical opacity and a change from a red color to a white when a flame is observed through a thin film of the emulsion on glass. This "going over," which appears to be the fundamental change in a photographic emulsion, would seem to indicate that the silver bromide was no longer in the colloidal state, but had become entirely crystalline, and a further digestion of the emulsion, during which the optical opacity decreases, and the color of the flame tends to become bluer, appears to be associated with an aggregation of the silver bromide into larger crystalline agglomerates, with a progressive elimination of the originally formed small crystals, the change from a physicochemical point of view being apparently a concentration of energy into large crystals, which, the concentration being an endothermic one, are really in an explosive state, the simplest explanation of the formation of an image by the action of the very small quantity of light energy required to make a fast photographic plate developable, being apparently that this additional energy is sufficient to initiate a decomposition in the silver bromide crystals by a mode analogous to that in which a detonator causes the decomposition of an explosive mass.

It is, consequently, each individual grain which must be regarded as the analogue of an explosive cartridge, and the film may be likened to a sand-bank in which many cartridges are imbedded at various depths, each cartridge being isolated from all others, so that its detonation is not communicated. In such a bank the effect of a shock incident from above (represented by the number of cartridges exploded) would be proportional to its intensity, each separate cartridge, however, being completely shattered if the shock is sufficient to explode it at all.

The unit of the image, which I have been referring to as a large crystalline agglomerate, is the silver grain of the photographic plate; when it is referred to as large, it is only so in comparison to the units of colloidal suspension, for instance, because in comparison with visible crystals it is extremely small, the diameter of average grains being of the order of one thousandth of a millimeter, and the grain itself would appear to be a complex structure, consisting of a number of crystals, and quite possibly containing gelatine. It is probable that photographically each grain is a self-contained unit, attackable by the developer only if it has itself been exposed to light, and that the sensitiveness of an emulsion is a statistical average of the sensitiveness of the individual grains of which it is composed.

It is impossible here to enter into a discussion of the theory of the latent image or of development, and I have introduced it at all only because of its bearing on the reactions involved in the making of an emulsion, the fundamental process of the photographic industry.

Photographic papers may be divided into two classes. The older papers, or print-out papers, on which the print is made by exposure to daylight, the color of the deposit being afterward modified, usually by the deposition of gold upon it; and the later class, now rapidly supplanting the former, in which an emulsion, similar to a plate emulsion, is coated upon paper instead of glass, and the image obtained by exposure for a short time to a weak light source is developed. Print-out papers consist of a silver chloride emulsion precipitated in gelatine or collodion, generally in the colloidal

condition, and usually containing both free silver nitrate and an organic acid. On exposure to light, the chloride is converted into the so-called photo-chloride, having a purple or reddish color, the photo-chloride apparently consisting of an adsorption compound of silver chloride and silver, the composition varying according to the conditions of production. After the paper has been printed, the color of deposit is modified by immersion in a bath containing a gold or platinum salt associated with a weak reducer, so that metallic gold or platinum is precipitated, and the unused silver chloride is then removed by solution in thiosulphate, which only attacks the photo-chloride to a very small extent. The chief difference between emulsions for development papers and those for plates, apart from the fact that paper emulsions are of much lower sensitiveness and consequently finer grain, lies in the fact that as the image is to be observed by reflected light, it is necessary that as far as possible it should be kept on the surface of the paper, and to this end the emulsion used has a larger proportion of silver to gelatine, the coating being thin. The color of the image obtained is naturally dependent upon the size of the grain, and if warm tones are required, developers can be used by which the silver is deposited in a very finely divided state almost approaching to colloidal division. By the admixture of such fine grain silver with larger grains, various tones can be obtained upon development papers.

Factory Organization.

The typical organization of a photographic factory is similar to that of most chemical factories, the raw materials going through a progressive series of processes, and the factory costs being most easily estimated upon a process costs system taking a definite area of the product as the unit charge, and the work done in each section progressively, so that the total gives the cost of the product at the stock room.

Taking as typical of the industry the production of photographic plates, the processes are as follows: Cleaning the glass; making the emulsion; coating the emulsion upon the glass; drying the plates; cutting the plates to the required sizes; examining the plates and packing them in paper; packing the plates in boxes and labelling, the plates being then dispatched to the stock room.

The factory is divided into: Glass stock and cleaning rooms; emulsion making and stock room; coating room; drying room; cutting room; packing room; boxing room; plate stock.

A paper factory will be similarly organized, except that paper does not require cleaning; if any preliminary process is necessary the paper is surfaced with barium sulphate, but, as far as I know, baryta coating is only done in one factory in this country. The paper is also automatically dried by the machine on which it is coated. The paper, after passing through the trough containing the emulsion, travels over a cold roller to set the gelatine, and then it is hung up in loops in a long drying chamber, through which it slowly travels, emerging dry at the end of about two and a half hours from the time at which it was coated, and being rolled direct and taken to the cutting rooms. Surface coated papers without gelatine, such as platinum papers, are dried almost instantaneously on a short machine by hot air, and do not require the elaborate hanging and slow drying arrangements necessary for gelatine-coated papers.

Photographic glass is the specially selected best quality of thin sheet glass, made in a works which prepares sheet glass for all purposes. Even in the best works, only about one-quarter of the sheets prepared are fit for photographic use, the remainder being used for windows, etc. The best photographic glass comes at present from Belgium, although good glass is also made in England, and the cost is about 2½*d.* per square foot. The glass is supplied cut to sizes which can be at once cut to the sizes used by photographers; the smallest size coated being generally the English whole-plate, or 8½ inches by 6½ inches, which cuts into four quarter-plates. The glass arrives at the works packed in straw in boxes holding usually about two gross sheets, and it is left in these boxes in the glass store until it is required for use, when it is unpacked and transferred to the glass-cleaning room.

In the early days of the industry the glass was cleaned by hand, being rubbed over with a mixture of methylated spirit and whiting, which was then washed off and the glass polished. Nowadays, however, the glass is cleaned by automatic machinery into which it is fed. The glass plate is received between two rubber-covered rollers, which push it forward between rapidly rotating brushes, the glass first passing between two metal tubes, which spray a strong solution of soda and water on both sides. As it passes through the rollers the brushes, of which there are two or more pairs, remove all dirt from the surfaces; it is then passed through more sprays and brushes with clean water running over it, and emerges at the end of the machine perfectly clean and ready for the next process. This consists of the coating of the glass with a substratum, usually a weak solution of gelatine containing chrome alum, by means of which the emulsion is made to adhere to the glass, and "frilling" is prevented. After coating with the substratum, which may be done either by the machine or by hand, the glass is dried either by passing through a long, heated box on the cleaning machine, or by transferring it to a heated oven. Each sheet is then examined for defects, and, if passed, packed in a box and transferred to the coating room.

(To be continued.)

NEW BOOKS

The Battle of Base-ball. By C. H. CLAUDY. Including "*How I Became a Big League Pitcher*," by CHRISTY MATHEWSON. 377 pages, illustrated. New York: The Century Co. Price, $1.50.

A book for every lover of the national game—one of those books you can buy for your boy and enjoy every page of it yourself. Mr. Claudy is as interesting and instructive in base-ball as he is in photography, where we know him best. As was to be expected from such an expert photographer as Mr. Claudy, the forty-eight illustrations are of unusual merit and include some clever examples of high-speed photography. The story of the great American game is told in an interesting and dramatic manner. Many intricate and delicate phases of the game are clearly explained, and many references are made to the world championship series played in Philadelphia last October. It is most assuredly a splendid book for your boy, whether he is nine or nineteen, and most certainly a book you will enjoy yourself whatever your age is.

The First Book of Photography. A Primer of Theory and Practice for the Beginner. By C. H. CLAUDY. 115 pages, illustrated. Price, 75 cents; postage, 8 cents. McBride, Nast & Co., 31 E. 17th St., New York.

This is a handy little volume "for the beginner who wants to know how to get six good pictures from a six-spool film every time." Here is the boiled-down essence of the whole thing—a book that assumes no photographic knowledge on your part, but tells you concisely just how to make good pictures. To all of which may be added that Mr. Claudy, who knows how to make good pictures, also has the faculty of explaining how it is done in plain and simple language. A good book for the beginner.

The Lantern and How to Use It. The great popularity of the optical lantern as a means of showing photographic pictures on the screen has rapidly increased during recent years, and its position both as an entertainer and an educational force is now fully recognized. A new edition of the practical handbook on the subject, *The Lantern and How to Use It*, by C. GOODWIN NORTON and JUDSON BONNER, therefore comes opportunely; for the lantern, although essentially used to the greatest extent during the winter months, is nevertheless of outstanding utility all the year round. The new volume, which is the fourth edition, has been entirely revised and brought up to date and includes references to the latest apparatus and all working instructions for the practical lanternist. It is a book that every lantern user should obtain and study. It is published by Messrs. Hazell, Watson & Viney, Ltd., 52 Long Acre, London, W. C. Price, 1*s*, net, or fifty cents post-paid from this office.

The Oil and Bromoil Processes. The enormous spread of pictorial photography has brought into existence many new methods for the production of photographic prints in permanent pigments, and the artist-photographer who wishes to express his ideas rapidly discovers that the limitations of what s known as "straight" photography frequently becomes irksome. The new photographic printing processes known as "oil" and "bromoil" have therefore assumed a position of great importance in modern photography, and as they enable the worker with artistic ideals to produce pictorial results with the greatest amount of ease, they have secured a great measure of popularity. The standard hand-book on these processes, *The Oil and Bromoil Processes*, by F. J. MORTIMER and S. L. COULTHURST, although only recently published, has already exhausted a first edition, and a second edition is at hand from the publishers, Messrs. Hazell, Watson & Viney, Ltd., 52 Long Acre, London, W. C. The book costs 1*s*. net, and contains full and accurate instructions for the production of photographic prints in these attractive processes. It is a book that can be well recommended to every artistic photographer who wishes to turn out the best work. Copies will be mailed postpaid from this office on receipt of 50 cents.

The Dictionary of Photography. A ninth edition of Wall's *Dictionary of Photography* has just been issued. This standard work for photographers has been greatly enlarged and now numbers 740 pages. The latest edition is practically an entirely new book, having been thoroughly revised and brought up to date.

Special articles and additional matter written by Thos. Bolas, F.I.C., F.C.S.; F. J. Mortimer, F.R.P.S.; T. Thorne

Baker, F.C.S., F.R.P.S.; F. Martin Duncan, F.R.P.S.; F. C. Lambert, M.A., F.R.P.S.; A. H. Blake, M.A.; C. H. Hewitt, F.R.P.S.; A. J. Newton; and W. Ethelbert Henry, C.E., render the book an invaluable addition to photographic literature. The entire work has been edited by F. J. Mortimer, F.R.P.S., editor of *The Amateur Photographer and Photographic News*, and forms a complete hand-book to all photographic processes and procedure.

At the same time, the new edition is written in an easily understandable and readily accessible form, in alphabetical sequence, the aim being to produce a complete yet concise volume of reference for both beginners and advanced technical and pictorial workers.

Many hundreds of new definitions have been added, so that the book is quite up-to-date and contains full working details of the latest processes. The definitions now included, although primarily intended to be explanatory, have in a great number of instances been enlarged to the proportions of descriptive articles, so that the *Dictionary* can be regarded almost as a complete set of practical hand-books on all photographic subjects, bound in one cover.

A special feature of the *Dictionary* is the extensive and exhaustive system of cross-referencing that has been employed throughout. Information on all correlated subjects can therefore be easily found, and the editor's task of revision has been largely directed to the concentration of information which was scattered throughout the book in previous editions. In the present edition details relating to the various subdivisions of subjects appear under main headings, while in their respective alphabetical order terms appertaining thereto are briefly mentioned and cross-references made to the main articles concerned.

As a work of reference, therefore, the book can be regarded as exhaustive and cyclopedic in form, as practically every point likely to arise in photographic practice is fully dealt with in its pages. It is a volume that should be on the bookshelves of every photographer, both amateur and professional, as it is the one photographic book of reference that can be regarded as indispensable. It is published by Messrs. Hazell, Watson & Viney, Ltd., 52 Long Acre, London, W. C., at 7*s.* 6*d.*, net, or postpaid from this office on receipt of $2.75.

The Spell of France. By CAROLINE ATWATER MASON, 417 pages and index, illustrated. Boston: L. C. Page & Co., 1912. Price, $2.50, net.

This is one of the Spell Series, of which the *Spell of Holland*, the *Spell of England*, and the *Spell of Italy* have appeared. The two most noteworthy features of this interesting series are the unusually fine illustrations and the charming manner in which the spell of the country written about is conveyed to the reader. Without the exertion or expense of travelling one may wander over foreign countries and thoroughly enjoy all the author has seen and learned of the places whose histories are lost in the mists of antiquity. The Spell of France is to be found in the south of France, in those provinces bordering the Pyrenees and the Mediterranean, in the land of olives and vines, roses and nightingales; and the author writes most interestingly of places and people we have heard of in a dim and distant sort of way. The numerous illustrations are an added attraction to an already attractive book; they show rare selective and pictorial qualities. Altogether it is a charming and desirable book.

TRADE NOTES

THE Technical Bureau of the BAUSCH & LOMB OPTICAL Co. has just issued a detailed description of the latest Balopticon for the projection of large opaque objects. It is difficult to realize that our old friend the magic lantern in such a wonderful instrument as this latest Balopticon, which will project onto a screen the image of an opaque object up to twenty inches square. For commercial and educational purposes it has an unlimited field. Photographers who are interested in projection work will find the Technical Bureau of the Bausch & Lomb Co. at their service.

IN our reference in the last issue to the BURKE & JAMES Sepaline tablets we said that the ten cent trial package was sufficient re-developer to tone three hundred prints. This was an error. It is the regular thirty-five cent. package that will tone three hundred prints. The ten cent trial package referred to is of the Ingento M-2 developing tablets. This is an excellent developer, and in tablet form is accurate, clean, reliable, and economical.

COLOR photography by flashlight was demonstrated at the April meeting of the Photographers' Club of New York, held at the studio of I. Buxbaum, Brooklyn, on the evening of April 16. Some thirty-five members were present and displayed great interest in the making of six plates. The models were posed under the direction of Mr. Dudley Hoyt, and all except one of the exposures were made by means of the new Agfa Flashlamp and Agfa Powder. The five plates thus exposed were completely successful, the time in each case being so correctly gauged that all of the values of the plates were preserved. Under the direction of Mr. George L. Barrows, chief of the photographic department of the Berlin Aniline Works, great progress has been made recently in the making of pictures by flashlight on autochrome and other color plates, the Agfa powder and Agfa lamp being especially adapted for this work. The rapidity of combustion and the great illumination of the powder, together with the absence of odor, smoke, and noise, enable its use in the studio without bags or other of the cumbersome machinery so usually associated with other flashlights. The rapidity of the flash, which corresponds to an exposure of approximately one thirty-fifth of a second, practically assures a perfect picture on every exposure. Mr. Barrows is preparing to give other demonstrations in neighboring cities during May and June, and those who desire to witness the very latest thing in color photography should get in touch with him through the home office of the Berlin Aniline Works, 213 Water St., New York City, at once.

LAST month we drew attention to the big national advertising that is being done on behalf of the photographer. Now it is the dealers' turn. The Ansco Company has just put out a life-sized cutout figure of a man with an Ansco camera in his hands. It is an attractive and lifelike piece of advertising that is bound to pull business wherever displayed. Then, too, their big national advertising is all designed to help the dealer. If the photographer and the photographic dealer cannot increase their business it cannot be put down to the lack of good advertising on the manufacturers' part.

MANUFACTURERS, dealers, or photographers who expect to take booth space or desk room at the Philadelphia convention had better not delay their application. The space to offer this year is less than usual, and the demand promises to be greater. Early application should be made to prevent disappointment. MANLY W. TYREE, Raleigh, N. C., has the floor plans and is ready to receive applications.

A NEW rapid Utocolor paper for printing in colors is announced. It is said to be three to four times faster than the paper it supersedes, and much more brilliant. This will be looked forward to with interest by the numberless photographers who are hoping for the time when the photographic print will reproduce the original in color as seen by the eye. Further details of the new Rapid Utocolor will be given after samples of the paper have been received and tested.

FEW photographers realize all the profit that can be made out of the sitter. High-class enlargements, water-color, oil pigment, gum and carbon prints could very often be sold if pushed. This class of work, however, is best done by a specialist. EDWARD BLUM, 32 S. Wabash Avenue, Chicago, a well-known and well-qualified expert in these processes, is at the service of the profession. He has a booklet that might help you to put money into your pocket. Write for a copy.

OUR reference last month to the non-curling qualities of Platora Development Papers conveyed the impression that Platora had just been put on the market. As a matter of fact, Platora has been well and favorably known for several years. It is the curl-eliminating process that has just been perfected, adding the desirable quality of non-curliness to the other good qualities of Platora. If you have not sampled this paper it will pay you to do so. Address the Photo Products Co., 6100 La Salle St., Chicago. They will see that you are supplied.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor

MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors

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EDITORS' TABLE

WE are glad to make space for the following letter from President Bliss, who has served the Professional Photographers' Society of New York faithfully and unselfishly for the past three years as its President.

BROTHER MEMBERS OF THE PROFESSIONAL PHOTOGRAPHERS' SOCIETY OF NEW YORK:

In retiring from the office of President, after three years' service in that office, I do so trusting that I have been of some small service to my profession and the Society which so honored me. I appreciate that if I have accomplished anything for our Society it has been only through your kind coöperation and loyalty and I would bespeak for my successor that same friendly spirit that it has been my privilege to enjoy and to assure you that President Falk is worthy of your love and hearty support, and to also assure you of his deep interest in our Society and its welfare. Thanking you, I am, with best wishes,

Fraternally,

HARRY A. BLISS.

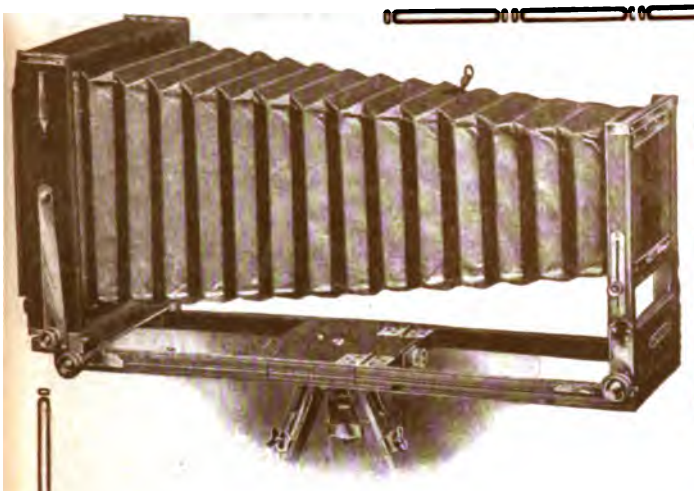
Buffalo, N. Y., April 22, 1912.

THE International Exhibition of the London Salon of Photography will be held at the Galleries of the Royal Society of Painters in Water Colors, 5a Pall Mall East, London, from September 7 until October 19, 1912, inclusive. Last year's exhibition was a notable success, and the coming exhibition is expected to be better than ever. It is hoped that a considerable amount of work from America will be submitted to the exhibition, which it is desired to make as international in character as the art of photography. All work submitted will be carefully and impartially considered. The last day for receiving work from the United States and Canada is August 21. We have a supply of entry forms with conditions of entry, and will be glad to mail copies to any of our readers upon request.

THE Southern Photographic Show and Convention, to be held in Atlanta, Ga., on June 4, 5, and 6, promises to be such a big affair that an additional day is required to get through the lengthy program of good things, so it will be continued until the evening of the 7th. A handsome sterling silver cup is the prize in the open to the World Grand Trophy Class, and will be awarded to the best portrait printed on Cyko paper, made from a negative eight by ten or larger. Exhibits must be in Atlanta at least two days before the opening of the convention, and must be accompanied by a signed entry blank. There is no entrance fee of any kind and every photographer has an equal chance to compete for this valuable prize. Prints should be mailed to the Southern Photo Materials Co., Atlanta, Ga., to be received not later than June 2.

WE wonder how many photographers are alive to the big advertising campaign that is being made on their behalf by the Eastman Kodak Company. The May advertisement refers to the growing and changing boy and the desirability of having his picture taken. What are you doing to reap the benefit of this big campaign? There are growing boys in every locality and plenty of them. Are you getting after the parents who must have seen the general advertisement in one or more of the big national magazines? There was never a better time than now to go after and secure more business.

IN remarking upon the disappearance of many of the monthly photographic magazines one of our contemporaries thought that it was "mainly the advent of the photographic weeklies, with their facilities for bringing out the news promptly, that was responsible for the decline of the professional monthlies." Under date of April 10, we read in one of these weeklies, with its facility for bringing out the news promptly, that the Eastman Kodak Company has secured the services of Dr. Mees. This piece of news was published in our March issue. On the next page we learn that the Ansco Company has opened an English branch in London. This piece of news we were able to get into our February issue. When will Philadelphia wake up?



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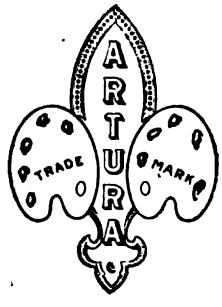

ARTURA DIVISION,
EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

Vol. XLIX ÷ ÷ ÷ ÷ No. 666

JUNE, 1912

WILSON'S PHOTOGRAPHIC MAGAZINE

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OUR PICTURES:

Frontispiece Engraved from a Photograph by Minya Diez-Duhrkoop. Eight Engraved Supplements from Gum Prints by Elias Goldensky, Philadelphia.

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PHILADELPHIA, JULY 22-27, 1912

Photographers intending to be present at the Philadelphia Convention, or those who wish to join or maintain membership in the Photographers' Association of America, will please fill out the accompanying blanks and send them in to the officers specified.

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Application for Membership

I hereby apply for membership in the P. A. of A. I am

Proprietor
Stockholder } of a studio in _____
Manager

State of _____

Name _____

Street and No. _____

City _____ State _____

Blank to be filled out and sent with $5.00 membership fee and dues for 1912, to Treasurer L. A. Dozer Bucyrus, Ohio.

If now a member of the P. A. of A. but not of any affiliated association, send three dollars for dues for 1912 only.

If a member of an affiliated association, send your affiliated membership card and $2.00—no membership fee required.

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I will exhibit and desire space for exhibit at Philadelphia Convention week of July 22d, 1912.

Name

Street _____

City

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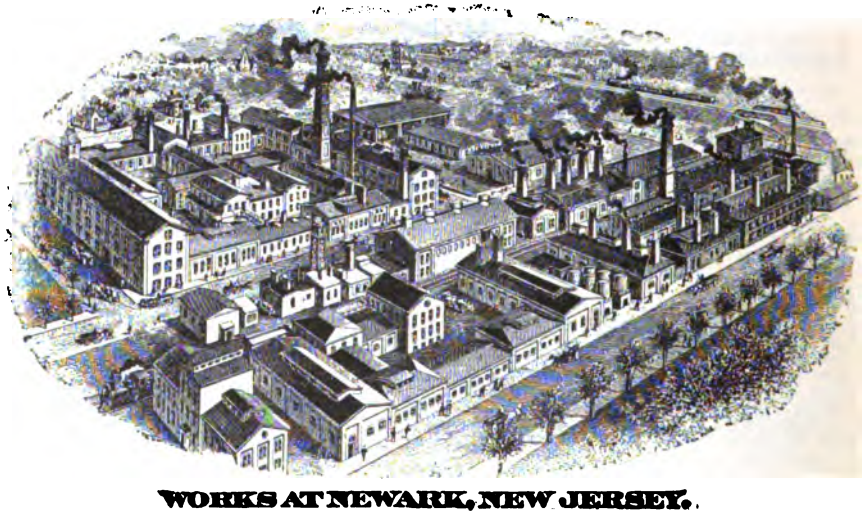

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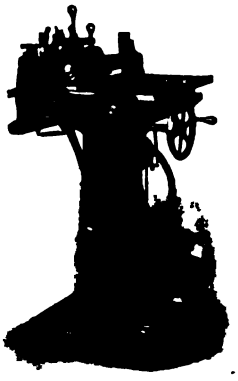

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ELIAS GOLDENSKY

By Minva Diez-Dührkoop

Made at the St. Paul Convention School

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. XLIX JUNE, 1912 No. 666

A GOOD MOTTO FOR PHOTOGRAPHERS

MR. RICHARD N. SPEAIGHT, the newly elected president of the Professional Photographers' Association of Great Britain, in taking up the work of his office, expressed the following as his slogan for the year: "Respect ourselves and our work. Combine and do not cut prices."

We have in these few words a line of conduct laid out that should be followed by every professional photographer for his own good and the greater glory of his profession.

"Respect ourselves!" Without a good and wholesome respect for ourselves how can we hope to impress our customers with a respect for us and our calling. Prices can be put up until they look very impressive, but few people are going to pay high prices unless we have compelled respect for ourselves and our work. Look around and think of the most prominent photographers that you have met. Did not they strike you as being men with a great respect for themselves and their work? The better the portraits they were producing gave them just that much more respect for their work and for themselves. Mr. Speaight himself must have had a very great respect for his work when, with his brother, he built and equipped in the heart of London one of the finest buildings that has yet been devoted to portraiture. He knew that it paid well to "respect ourselves and our work."

Combine! Photographers have not yet realized the necessity of combining for the betterment of their profession. The percentage of professional photographers who are active members of State or National Associations is somewhat low. Too many men are content to plod along alone and ignore the help and inspiration to be obtained by getting together and exchanging ideas with their fellow-workers. Of course each individual worker is most anxious to do the best he can for himself, but he should realize that more can be done by coöperation than by isolation.

Do not cut prices! In spite of the acknowledged folly of such a move many photographers, in their anxiety to stir up more business, will show how little they respect themselves or their work by offering to supply their regular work for half the usual prices. This is the first resort of the man of few ideas and who does not think beyond the day after tomorrow. Cut-rate prices will develop cut-price

customers to the exclusion of the people who were prepared to accept your work at your regular and presumably fair and reasonable prices. Photographs should never be put in the same class as "seconds," "damaged," or "shopworn goods." If a photographer cannot maintain and occasionally advance his prices it is evident that he is not making any advance in his profession. To cut prices is to confess failure. The man who offers his work at cut prices will most likely be trying to sell his business soon after.

Take a lesson from the big men of the profession. Take your work and yourself seriously. Get together for mutual support and raise prices, or, in the words of President Speaight, "Respect ourselves and our work. Combine and do not cut prices."

WHAT THE NATIONAL CONVENTION OFFERS AT PHILADELPHIA, JULY 22-29

Five Minute Talks by Leading Photographers

THINK of the best twenty men in the business—along art, business, and general lines—the twenty men you'd rather hear than anybody else, and very probably you will think of the twenty men that have promised by all they hold holy to come to Philadelphia this July and give each a five-minute brisk talk, full of "meat," and the things they have learned by experience. We could give you a list of names here that would astonish you, but we won't, because the old proverb says there is many a slip, you know—and it may just happen that one or another of the promisers may break a leg or get married or do some other equally foolish thing which will keep him away. But the twenty best men will be on hand, and they'll give you such value for your Convention expenditure that you'd never regret having attended the Big Show at Philadelphia, the week of July 22.

A School of Modern Pictorial Printing Processes

Ever since Elias Goldensky, searching for a better means to express the individuality of his work and style, showed the wonderful gum-prints that have been so much written about (see illustrations in this magazine) there has been a quiet but growing desire on the part of more thoughtful photographers to learn both the process of gum-printing and the more recent evolution, oil and bromoil printing. The 1912 National Convention is planned along helpful lines in its every department. The exhibition will be on a high standard, and a capable critic will be at the service of the members. The lecture on "Business" will be one not easily forgotten.

The "Short Talks" and other lectures will all be practical and inspiring. And to round out the modernness of this year's convention, there will be a continuous School of Pictorial Printing Processes. The School has been placed in charge of Mr. H. O. Bodine, a well-known pictorialist and exhibitor and an expert in gum and bromoil printing. Assisting him will be Ryland Phillips, who has introduced oil and bromoil into his studio; Walter Zimmerman, Wm. H. Kunz and H. Crowell Pepper, all of whom have gained a wide reputation for their clever work in these processes, and for their successes as

pictorialists. Every detail of these processes will be shown, from preparing the paper to manipulation of the print to the stage when the individuality of the worker has full scope to assert itself. It will be a mighty interesting procedure, and every visitor to the convention should take time to learn these methods even if he cannot avail himself of them in his everyday work.

Sadakichi Hartmann at the National Convention

At every convention there arises the insistent demand that some capable man criticize the pictures placed on display. Photographers naturally want to know wherein their pictures fail, why—after all their efforts—their "best work" does not stand up among the others as it ought to. President Larrimer has recognized this need, and in line with his efforts to make the 1912 Philadelphia Convention the best ever, has engaged the services of Sadakichi Hartmann, the well-known writer on art topics, and one of the most competent critics on pictures that this country has known. For three days he will be at the service of the members for private criticism. Very probably, too, Mr. Hartmann will give a public criticism, using the Bausch & Lomb opaque projector to throw his pictures on the screen. Mr. Hartmann, who writes under the pen name, Sidney Allan, in this magazine, is responsible for the fine collection of drawings at the Carnegie Art Institute at Pittsburg and the Art and Photographic Library of the Grosvernor Library at Buffalo, accounted the best in the country for its size. He is also engaged in writing *The World's Art—What Everybody Should Know About Art*, for the publishing house of Putnam & Sons, the book to be published simultaneously in London and New York next season. His writings in the photographic press are too well known to need recapitulation. Here is a chance for members of the P. A. of A. to get much valuable information on their pictures.

School of Lighting and Posing at the National Convention, Philadelphia

Another feature has been added to the already rich program for the National Convention. The "best is none too good for our members," says President Larrimer, and so he has arranged with half a dozen of the leading exponents of modern portraiture in the East to devote some of their time to a series of demonstrations in lighting and posing. There has always been a rush to fill the seats at these demonstrations at past conventions, and when the list of instructors becomes public, you may be sure you'll have to get in early if you want any place at all in the demonstration hall. Probably the School will be held on Thursday of the convention week, but this detail has not yet been fully decided on. Anyhow, every day is going to be such a "strong" day that you can make up your mind to stay the whole week in Philadelphia so as to miss none of the big features.

Railroad Rates to the National Convention

When you are all ready to start for the National Convention, it would be just as well for you to find out whether there is not a special summer rate to Atlantic City. Many lines have special round trip rates to this summer resort, and you can go to the National Convention cheaper by taking advantage of them. Buy your ticket to Atlantic City, with stop-over at Philadelphia, and when you reach Philadelphia give

up your ticket at the depot. Then you can either take up this ticket when you go on Wednesday to Atlantic City, so that it will be good for your return trip at the end of the week, or if you propose to go to Atlantic City again after the Convention is over, you can leave your ticket at the depot until you are ready to make use of it. Don't forget this, as it may save you a lot of money.

THE PHOTOGRAPHER AND HIS JOURNAL

BY FRANK FARRINGTON[1]

THE business man who is not familiar with the journal or magazine covering his line of work is losing much of the best kind of help that is available for the suggestion of ideas and plans for developing himself and his business. No man can read the class publication devoted to his special interests without profiting by it.

Of course, there are men who are so old-fashioned that they look upon business journals as mere money-getting schemes promoted by somebody who is after their money.

Naturally the business magazine is published for the purpose of making money. So is every man in business to make money; but that does not mean that he is out to rob the public.

The class journal is not a form of graft. It is not a necessary evil. It is not a selfish business enterprise whose sole aim is to line the pockets of its promoters. It is the text-book of the business and as such it is well worth studying—as much so as the text-books of your schooldays.

Business is not a matter of luck, nor is it a game to be run upon a guesswork basis. It is subject to certain definite rules and its success is based upon certain principles. No man can assume that he comes by a knowledge of these rules and principles by nature any more than he can assume that he is born with a complete working knowledge of bookkeeping, stenography, or plumbing. In order to learn business a man must study business, and he should study it in the business journals as well as in his own experience.

There was a time when men took up a business because it looked as if it would be a good way to make money. They went into it with no special preparation and learned its details as their daily work forced them to learn them. They succeeded because there happened to be an overwhelming demand for their kind of service; or they failed because there was no demand, or because the demand disappeared, or because someone else was better able to serve the public.

These men had no system of developing their business, no system of handling it, no system of saving, no system of anything. They succeeded in spite of their lack of efficiency. The day has passed when a man can succeed in that slipshod way. The men who are successful today are the men who know, who systematize, men who study the methods and the rules of others who have succeeded. They find all this in the journals of their business.

There are still many men who pay no attention to the literature of their work, but these men are fast fading into obscurity. They are retiring

[1] Copyright, 1912, by Frank Farrington.

from old age or being retired by the sheriff.

The man who counts upon the old ways making good for him just because they are old and reliable is doomed to disappointment.

The class journals, the business publications, are waking up men who have been asleep. Of course a good many of these men have had a living out of their work or their business, but they do not realize that it has been in spite of their methods rather than on account of them. It is the reading of the business magazines that is showing them how low they stand in their particular field.

Every man who subscribes for a business journal and reads it is going to be made to think and to wonder, and he will end by finding out. He is going to get out of the rut of ignorance that has limited his profits and hampered his efforts.

It is not easy to get a business man interested in a class journal for the first time. The conservative, do-it-all himself kind of a man does not take kindly to any suggestions as to how his business ought to be conducted. He thinks that he knows more about running it than anybody else does. He is not looking for advice. He is inclined to be a grandfather man, satisfied to do things in the way that his father and his grandfather did them before him; sure that he will succeed because they succeeded, though very likely the best they did was to make a living.

Grandfather did business under very different conditions from those of today. Different methods are required now for all sorts of business transactions and for business development. And furthermore, while grandfather was satisfied with a fairly comfortable living, expecting that it would keep coming as long as he lived, we are not so easily satisfied in these days. We want to be taking something out of the business every year for outside use or investment.

The grandfather attitude is the stumbling block of many business men.

No man can figure it all out for himself. Every man has a different point of view and evolves different plans of work under the same conditions. The business journal is the clearing house for these varying ideas from different brains. In it the successful methods of big and little men are chronicled and all sizes find there ideas that can be adapted to the reader's use. The man in Seattle gets the benefit of the knowledge gained by the Boston man, and vice versa. When a business magazine subscriber runs short of ideas he does not have to quit. He can refer to his journal and find ideas that are already worked up and the details of operation given in such form that they are easy to develop.

Of course, a man must have intelligence in order to get ideas out of a business journal or to use them after he gets them. A man who is a born fool will not find that the magazine will do his business for him. It will not put brains into a head that was without them before.

Brains are a necessary requisite and there ought to be some imagination, too. If a man has imagination he will recognize a good idea wherever he finds it and he will adapt it to his own use. A man ought to be, and he can learn to be, able to recognize a good suggestion wherever he finds it or in whatever clothes it appears.

A business journal costs a little money, to be sure, and sometimes a man refuses to subscribe on account of the price. But you are quite likely to find that this same man who refuses to give up a dollar or two for a business journal will stop in at "Tim's place"

on the way home at night and spend two or three dollars setting 'em up for the boys and sitting around while they discuss hard times and wonder why the dickens somebody doesn't start something to liven up business in the old town.

Whatever a business magazine costs, it is worth it. It matters little what the business may be or how much or how little the man already knows about it. No business man can invest the price of the journal that covers his line of work in a way that will bring him any better returns than to pay it for a subscription.

There is no other way of keeping informed upon what is doing in your business or upon what is new in the way of supplies and equipment than by reading the journal carefully from cover to cover. The advertising pages are in themselves a mine of information. They should receive as careful attention as the reading pages, and I am not sure that they may not be even more valuable.

The business journals keep the business man up-to-date, and it is just as important that he keep posted as that the doctor or the lawyer continue to study after leaving college. What do you think of the professional man who starts in to practise and gives up all study, depending upon his own experience to advance his knowledge, counting upon keeping up with the improved methods of work by finding them out for himself? The fate of that kind of a man will be oblivion. It ought to be. Such a doctor cannot cut out my vermiform appendix. No sir! When I want first-class medical advice I am going to the practitioner who reads the medical journals instead of throwing them behind the desk with the wrappers on them.

Show me a man's class journals after they have been in his possession a month and I will tell you what kind of a business man he is.

The business journal stirs a man up. It excites his liver and it arouses his energies. The class paper reader does not suffer from torpid anything. He is very much alive and he realizes that no matter how wise he already may be, he still has much to learn.

You remember what Louis XIV said to his priest, Father Massilon. He said, "Father, I have heard many great preachers, and I have been satisfied with all of them; but as for you, you make me dissatisfied with myself." And so it is with the good class paper. It will make the wise business man dissatisfied with himself. It will arouse in him ambitions to be something better and greater, to accomplish more, to win a success that shall be a real success.

The class journals have become a great force in this country. They are united in their efforts to accomplish something for the benefit of their readers. They know that they themselves cannot prosper unless their subscribers prosper first.

The men behind these publications are more anxious than you realize to know what their readers want and what they like. They want to hear what you think of what they print. They naturally like appreciation, but it is chiefly because they are anxious to see in what ways they have made good with their readers.

I believe in the subscribers to a business journal sending the editor plenty of letters, raking it fore and aft when it needs it and patting it on the back when it deserves it. I believe in a man taking the same attitude toward his class journal that he takes toward his lawn mower, his automobile, and his wife; that of thinking it is the best there is. That sort of loyalty always begets interest and enthusiasm.

While the business magazine is issued for the purpose of making money, the publication of trash will not make money for it any more than the selling of trash over the counter will build up a permanent trade for a store. The publishers of class journals are constantly on the lookout for good matter, but good contributions are none too easily obtained. The reader himself, the business man, makes the best possible contributer to the journal. He knows what he is talking about. His language may not be flowery, but it is all the better for that. It does not even matter if his grammar and spelling are imperfect. He has the ideas, and ideas are what count.

The business journals need your help in making them better. They need to get first-hand information as to what will make them more useful to the reader. The more you can help them, the more they will help you. Ask them questions. Send in complaints to the journal about its own methods or about those of its advertisers. Ask the editor what he means by sidestepping this issue or that and why he comes out so strongly for something that seems to you to be foolish. Get right down to brass tacks in you letters to the journal.

The business journal needs a good deal the same sort of treatment as the business or trade association. A whole lot of men sit back in their chairs and say, "National Association of this or that! Humph! What did they ever do for me?" That is not the question. What have you ever done for the association? What have you ever done for the trade or class journal that is serving you faithfully? Please do not stop with merely paying your subscription. The paper will grow to be infinitely more valuable to you if you interest yourself in seeing what you can do to help make it better.

Send in your suggestion, your kick, your complaint. Tell the editor your troubles. Everything of that sort that you do, helps to encourage some other fellow to do likewise.

The editor will know a good deal more about what his readers want if they are ready to advance their ideas and their opinions.

When a business man makes a foolish move deliberately and loses money by it without having first asked the opinion or advice of his best journal in the matter, he has in many instances thrown the money away. While editors are not all-wise, still they have at their service sources of information beyond those of most of their readers, and their advice upon business matters is well worth getting. The wisdom of the best heads in the country in a line of business ought to be valuable for the man in that business.

A good many business men think that the petty trials and difficulties of their work are not worth taking up with a business magazine editor. They are, and as a matter of fact, the small troubles are the ones that cause more worry than the greater ones.

Little things are what make up the day's work for most of us and nothing is too petty for consideration between business men and their journals. Don't be afraid to write to the editor about your little troubles.

A good many men regard the advertising pages of the journal as merely incidental. It has come to be pretty well understood that the average popular magazine could not exist without its advertising pages, that it costs more to get it out than the subscription receipts amount to. This is also true of the business journal. There is no good publication of this sort that can maintain an existence on a basis of mere subscription income. That means that if the publishers make

any money the advertising pages must prosper.

The advertising pages are a necessity to the magazine but they are even more so to the merchant or office man or to any other business man. They are of the highest value to him and the man who does not go through them with as much care as he gives the reading matter is sure to lose endless opportunities.

A good many business men work along year after year in a rut because they do not get in touch with the outside world. They stick too closely at home, buried in their own business affairs. The advertising pages of a good business journal bring the markets to the reader who cannot go to them. One of the popular magazines calls its advertising pages the "Market-place of the World." The advertising pages of the class journal are the market-place of its readers.

Those pages are carefully edited and fraudulent concerns are eliminated just as in the high-class general magazines. In those pages the live wires of the business world are showing their best goods and calling attention to their newest offers. Of course there are a good many poor advertisements that do not mean much, but it is worth the reader's while to find out what every advertisement means and what it has to offer. In the last few years there has been a vast improvement in the class paper advertising of the country, and today it is, in many instances, as carefully prepared as that of the general magazines.

When the reader is answering the advertisements in the advertising pages he should be careful that every inquiry sent mentions the place where the ad. was seen.

Of course there is nothing obligatory about this, but it is so easily done that as a matter of courtesy to the journal and to the advertiser it should not be omitted.

A good many merchants or business or professional men are satisfied with one journal in their line of work. That is never enough. Several should be taken, covering the whole field of the individual's endeavor.

If a man is to succeed he must have the current literature covering his line of work. He must know what is going on in the outside world in his particular groove in the world.

The business journal reader should not stop with reading his magazine. He should clip out and file all information of value in such a way that it will be available at any future time when it may be needed. He should encourage his employees also to read these journals for their own advancement and for the benefit it will be to his own business.

For everybody connected with business the business journal is all important. It is the best information bureau available, and there is nothing that will quite take its place.

THE NEW BRITISH COPYRIGHT LAW

THE photographers of Great Britain have secured a very fair share of protection in the Copyright Act of 1911, which goes into effect on July 1 next. A feature of the new act is that a photographer is not obliged to mark his photograph copyright or to put any identifying mark on it. In bringing any action for infringement of copyright the complainant is assumed to be the owner of the copyright, and the onus of proving that he is not is placed on the defendant.

Under rulings in the English Courts

it has been held that a person has no copyright in his or her own face, and where a photograph of it is obtained surreptitiously no action can be taken, on grounds of coypright, to prevent the use or publication of such photographs. The following brief summary of the new law is taken from our contemporary *The British Journal of Photography:*

Present Copyright Law in Brief

Copyright in photographs lasts for fifty years from making the negative. (New Law.)

The author of the photograph is the person who was the owner of the negative at the time when such negative was made. (New Law.)

The copyright in a photograph first belongs to the author, unless made to the order of some other person for a valuable consideration. If so made, the copyright belongs to the person giving the order. (As Old Law.)

Any assignment of copyright or license shall be in writing. (As Old Law.)

Infringement of copyright consists: in producing or reproducing a work, or any part of it, in any form. It is equally infringement to sell, hire, or exhibit infringing copies by way of trade or so as to prejudice the owner of the copyright; or import them for sale or hire. (Practically as Old Law.)

An infringer is exempted from liability to pay damages, etc., if, in defending any action, he proves that he was not aware that there was copyright in the infringed work and had no reasonable ground for suspecting the fact. (New Law.)

Photographers can obtain civil remedies (damages, injunctions, etc.) for infringement of copyright: or, where infringement is shown to have been done *knowingly*, summary remedies (fines and imprisonment) against the infringer. (New Law.)

Infringing copies may be prevented from importation into the United Kingdom by notice to the Customs Commissioners. (New Law.)

Existing copyright photographs (made before July 1, 1912) obtain copyright as defined by the 1911 Act. Its term is that (fifty years) provided by the 1911 Act, reckoning from the date of first production.

Under "Photographs" are included photo-lithographs and all prints made by any process analogous to photography.

No registration or other formality is necessary to enable the owner of a copyright to take proceedings against an infringer. (New Law.)

THE NEW "HYDRA" PLATES AND PAPERS

[We have had numerous enquiries about the new Hydrazine plate—the plate that cannot be over-exposed, and are glad to print the following lecture delivered by Geoffrey Whitfield, B.A., at the Arts and Crafts Exhibition recently held in London. It is the latest information concerning this remarkable plate and we are indebted to "*The Photographic Dealer*" for the Report. —Ed. W. P. M.]

You have seen in the announcement that I am to give you a short talk regarding the "Hydra" Plate. I suppose all of you have heard why this is called "Hydra," but for those who may not have heard the reason, I will say that the word "Hydra" is an abbreviation

of Hydrazine, the use of which in sensitized surfaces was discovered by Mr. W. H. Caldwell. This is hardly the place to go into the chemistry of this product. Let it suffice for me to say that it is an absorbent of bromine and chlorine, and that this is the principal use to which it is put when combined with a light-sensitive emulsion.

Mr. Caldwell claims, and I shall support that claim by demonstrations and specimens I have brought with me, that, by the use of Hydrazine in a plate, it is possible to over-expose a plate to any amount, even to printing it out, so that the view you are taking through the lens can be seen, faintly, of course, on the plate. Such a plate can then be developed, and will produce a printable negative. This negative would, not improperly, be called freak.

The first point for me to make clear is the expression over-exposure. If the photographer is taking, say, a landscape, in which there are some very deep, heavy shadows, he cannot give his plate, assuming that he is using any other than a Hydrazine plate, sufficient exposure to bring out the detail in the heavily shaded parts, because he knows full well that if he did, the most brilliantly lighted parts of his landscape would be hopelessly over-exposed and the negative spoiled.

This, then, is the claim Mr. Caldwell makes, namely, that by the use of Hydrazine in the plate the operator can give the correct exposure for the deepest shadows and the parts of the negative that would otherwise be spoiled in an ordinary plate will be in their proper relation to the shadows.

Therefore we see, in the first instance, that the plate is really underexposed, that is not properly exposed, whereas in the latter instance it is properly exposed.

Hence we see that the term over-exposure should be used with caution. With any ordinary plate we have to expose for the high lights, with the result that we get no detail in the shadows. But if we had exposed for the shadows the brilliantly lighted parts would have all flattened out owing to over-exposure. But it is only over-exposure of part of the picture. With the "Hydra" plate there is no such thing as over-exposure and hence we can always expose fully for the shadows, knowing well that the high lights will still come out in their proper gradation, and so we get a perfect negative.

What then is the best way to proceed with the "Hydra" plate? Surely this. We estimate the exposure necessary for the subject in any way we like, either by meter or by our own judgment—then simply expose the "Hydra" plate from 10 to 40 times as much as our original estimate suggested. Thus we shall be confident of getting out good detail in the shadows without losing it in the brilliantly lighted portions.

I think I can be pardoned for saying that this is an immense step in advance in the photographic art. I will now with your permission show you a few specimens of exactly what I mean.

Here is a typical view of an ordinary landscape. This first slide was given what was considered to be about the correct exposure. These succeeding ones have had exposures varying from 10 to 100 times the original one. You cannot distinguish any difference, each being practically a repetition of the other.

(*Examples Shown on Screen Corresponded with the Description.*)

Mr. Caldwell makes an additional claim, namely, that no matter what the exposure may be there is and can be no

reversing of the image. You all no doubt know what I mean by reversing. Many of you have tried to photograph at night, and the resulting picture has often disappointed you, because instead of getting a bright, white representation of a brilliant object, such as an arc lamp, the lamp comes out black, which is reversal. Perhaps none of you have ever tried to photograph the sun. If you had you would quickly find out that you would get, instead of a black spot on the negative an absolutely clear one. This again is due to reversal of the image.

The negatives which I am about to show on the screen were made by Mr. Sanger-Shepherd. These are two illustrations of an arc lamp taken one on an ordinary plate and the other on the "Hydra" plate. The one which shows the arc as a black spot was done on an ordinary plate. The other on the "Hydra" plate shows the arc as it should be, namely, an intense white point, which again shows that no reversal has taken place.

Another negative done by Mr. Shepherd is an incandescent electric lamp. You know that the light from the incandescent lamp comes from filaments of metal or carbon which are of intense whiteness. Here you have a pair of slides dull black on the ordinary plate and intensely white on the "Hydra" plate. These tests are interesting in themselves, but they are nothing as compared with tests made with the sun as the object to be photographed. When you come to consider that the shadows in the negative I have shown you are fairly exposed, it follows that the sun itself must have been over-exposed hundreds of thousands of times, and yet there is no sign of reversal. This is an ideal test. Take an ordinary plate, manufactured by anyone you like, and a "Hydra" plate. Expose them both on the sun, and the result will be a black spot on the ordinary plate and a white one on the "Hydra" plate, or in other words, one will reverse the image and the other will not and cannot.

It is as well to add, in closing, that up to the present there has been no known developer able to develop a heavily over-exposed plate.

We have found that heavily restrained pyro-soda will develop a negative 50 or 60 times over-exposed, but good results are not easily got beyond this degree. In other cases of over-exposure the work has had to be done by what is termed a physical development. Mr. Caldwell has invented a developer which we call "Hydra" developer, which will develop plates in which the exposure has been carried so far that an image appears on the plate, which means many thousands of times over-exposed, and still give a printable negative.

For ordinary snapshot work, "Hydra" plates can be used and developed with ordinary developers, and it is only on the very heavily over-exposed plates that Mr. Caldwell's developer is absolutely essential to success.

I said at the outset that this Hydrazine is used on sensitized surfaces. Sensitized surfaces include glass plates, negative and positive, paper and celluloid films. Hydrazine has been successfully used for all these.

All printing-out papers up to the present time contain a particular silver salt—usually silver citrate—in addition to the silver chloride which is the chief constituent. Now when these papers are exposed to light for some time the silver chloride loses some of its chlorine which is immediately absorbed by the silver citrate, and hence what we call "printing" ensues. If this citrate were not present, the chlorine would go back to the silver chloride and no printing-out effect would occur. Hydrazine

takes the place of the citrate, and absorbs the chlorine given off in printing-out paper, or the bromine in the case of bromide and gaslight papers. Of course we know that printing-out papers can under certain conditions be developed, but there is no really satisfactory method of doing this. There is always great uncertainty about it, and I know of no method whereby printing-out paper can be developed to a black tone. It is hardly correct to call this Hydrazine paper a printing-out paper that will develop, but rather a gaslight paper that will print out.

As to its constituents, except for the addition of Hydrazine it is exactly the same as any gaslight paper, and can be developed with any of the usual gaslight developers, and will give prints in about the same time, and with the same speed as gaslight, but you have the great advantage that out of the same packet of paper you can choose which of your negatives shall be printed out and which developed; in other words you can choose which tone your prints shall have, black by development or sepia by printing out and fixing only. This paper will be on the market within a very short time.

We have, however, exactly the same thing ready for sale in celluloid films in imitation ivory, specimens of which I have here and will be glad to show you. Some of same have been developed, some printed out and fixed, and others printed out and toned, so that a great range of colors is obtainable.

Perhaps the most interesting of all these Hydrazine products will appeal to lanternists. The experience of many in making lantern slides, is to find when developing that the slide is either too dense, or not dense enough, or that the color does not please. It is not likely that any of you have attempted printing out a lantern slide precisely as you would print out a piece of self-toning paper. This process is now available. Colors like those obtained on self-toning paper are obtainable by fixing only, as are also the familiar P. O. P. shades obtainable by the use of a combined toning bath, or by developing exactly the same tones can be obtained as with the slow or gaslight lantern plates.

I will now put on the screen a set of lantern slides, all made from the same negative, black and brown developed, and various tones from sepia to cold blue, printed out and then either simply fixed or toned.

MAGNESIUM FLASHLIGHT

BY DR. M. ANDRESEN

(Concluded from p. 208.)

Summary

The preceding chapters have shown that chemistry has solved the problem of highly actinic, sufficiently rapid, smokeless, and at the same time dangerless, flashlight mixtures. It suffices to finally say a few words regarding the choice of the right sort of plates for flashlight exposures.

Orthochromatic plates in general produce more natural flashlight pictures than ordinary plates. The reason for this is to be found in the yellow rays which are very numerous in most of the flashlight powders, and which are more effective on orthochromatic plates. Dr. R. Blochmann

examined several flashlight mixtures (*Mitteilungen of the Actien-Gesellschaft für Anilinfabrikation*, December, 1908), among others "Agfa-Blitzlicht," in regard to their effect on an orthochromatic plate ("Agfa-Chromo" plate) and on an ordinary plate. He summarizes the results of his experiments in the following words:

"The above comparisons teach us that we are able to produce the relatively strongest light with "Afga-Blitzlicht," or, in other words, that for a certain normal exposure of this powder a smaller amount is required than of any other flashlight mixture. They further show us, that for the reproduction of correct light values of objects containing yellow, "Agfa-Blitzlicht" on account of its yellow rays in combination with orthochromatic plates will produce the most satisfactory results."

In order to facilitate the practice of flashlight photography various devices have been brought out by the photographic industry that are very convenient and helpful for the photographer. An exposure table is almost indispensable. I recommend the "Agfa-exposure table;" it is very useful for both daylight, as well as flashlight exposures, and very convenient in determining the proper amount of "Blitzlicht" powder for the respective exposures. For many exposures a so-called flashlight lamp is indispensable. For my numerous experiments I have used, without any exception, the improved "Agfa-flash lamp," which causes ignition by means of a pyrophoric metal.

It is not the purpose of this treatise to give special instructions for the various tasks of flashlight photography, as, for instance, single portraits, groups, interiors, etc. Amateurs who intend to devote themselves to flashlight photography more thoroughly, ought to take pains to read a good book about this subject. I recommend for this purpose the work of Hans Schmidt, *Das Photographieren mit Blitzlicht*, published by W. Knapp, Halle a. S., in 1910, a work to which I have referred at several occasions in the above. In reading this book we shall find the roads opened for all kinds of work, and soon, without much loss of time and money, we will enjoy to the fullest extent this most interesting branch of photography.

GET IT IN THE LIGHTING

BY U. S. TWAIN

PERHAPS there is no more important factor in the obtaining of successful results by means of photography than the possession of a thorough knowledge of the most suitable form of lighting to employ in the particular class of subject being dealt with.

It does not matter what particular branch of photography is being pursued, *lighting* is of the utmost importance, and any negligence in regard to it is certain to be reflected in the quality of the work turned out.

In portraiture, for instance, anyone who has never experienced the difficulty can form no idea of the amount of labor and thought that is incurred in the fitting up of a studio before the best effects in lighting are obtainable, and if this be necessary for the production of not only portraiture where specially fitted-up studios are concerned, but

what is of equal importance, lifelike results, how much more difficult is to obtain anything like equal results in what is termed "home portraiture," a branch of photography now largely practised by thousands of amateur workers, who derive a large amount of pleasure therefrom.

In studying any face it is intended to photograph, the first aim should be to ascertain what light best suits it, and it only requires but a little consideration by anyone desirous of practising portraiture to understand that the light most suitable for one face would not by any means be equally so for another.

Therefore it follows that the professional, working in a specially fitted up studio, has at command, by means of his top and side lights, each of which is furnished with a well-devised system of screening, a power which enables him to execute portraiture in a manner superior to that which anyone working without these adjuncts and facilities need never expect to attain; and if we examine still further into the question of what is required in lighting a face to its best advantage, we will find that not only must consideration be bestowed upon the amount of direct and diffused light employed, but some thought must be given to the proper direction from which both the direct main and also the diffused lights are permitted to fall on the face and figure of the sitter.

Portrait painters, as a rule, work with a side light falling at an angle of 45 degrees, because this is found to suit the majority of faces; and this has been followed in a great measure by professionals in the construction of their studios.

In executing portraiture outside a specially fitted-up studio, say, in such a situation as a large-sized room having an ordinary window, much may be done to assist and improve the lighting of the face by means of a few well-arranged screens and reflectors.

When work of this kind is attempted in an ordinary room without any such provision being made, it generally ends in failure, by reason of the lighting showing too powerful contrasts, and this is painfully evident by the shadow side of the face coming out almost black, while the side next the light is far too hard—results brought about by a want of diffused light, to obviate which not only must there be provision made to throw reflected light upon the shadow side of the face, but, what is of much greater importance, the light that is permitted to reach the side of the face next the window must be filtered or diffused by means of thin transparent muslin screens.

In carrying out an arrangement of this kind, it does not necessarily follow that the entire surface of the window should have blinds fitted to it, for this would tend to cut off an amount of useful light that can ill be spared when working under such cramped conditions of lighting. All that is required is to provide some simple screen of muslin of just sufficient dimensions as will be capable of diffusing all the main light that otherwise would reach the face. A screen of muslin, made by stretching this material on a light frame three feet square, so that the frame can be interposed between the face and the window at a point just outside the range of the lens, will be found to work admirably.

Anyone desirous of attempting portraiture in ordinary sitting-rooms would do well to try the following experiments, from which he will be able at once to judge of the immense importance that is attached to the proper lighting of the face. At a distance of, say, four feet from any

ordinary window, let a sitter be placed on as low a chair as possible, and let the body be posed so as to have the chest and front part of the figure almost facing the window, but not quite under the full light of same; then, without moving the chest or figure, let the face be turned away from the window until a somewhat side light only falls upon it. If the operator now steps back and views the effect of such a disposition of lighting, he will at once see that it is quite unsuitable, for the side next the window is much too brightly lighted, while the off-side of the face is enveloped in deep shadow, in which the finer details of the face are entirely buried. At this stage let the operator bring to his aid the service of some kind friend, and, without altering the position of the sitter or moving from the same spot from where he viewed the effect, let his friend or assistant hold up slightly above the head of the sitter, at a point between the same and the window, the muslin screen described previously, and the very moment it is placed in position he will be surprised at the change that comes over the sitter's face, for not only will the side next the window, that was previously far too bright, appear to be beautifully softened down, but the shadow side will appear to immediately lighten up, and the dense shadows previously apparent will disappear, and detail spring into view that was entirely unseen before the screen was placed in position. And if at this stage the services of some simple reflector be brought into requisition, so that a somewhat front side light be thrown upon the front as well as the shadow side of the face, a marked improvement will have been effected, and, under such conditions, heads and busts may be well photographed in any well-lighted sitting-room; but it must not be imagined that full effect is capable of being given to every class of face in such situations, for this is really impossible with some kind of faces, where more or less top-light is required to yield lifelike results, and which can only be attained in properly fitted up studios.

In another branch of photography, *viz.*, copying, lighting also plays a most important part. Take, for instance, the photographing of oil paintings. Here, again, we see the need of having command over the light that is permitted to reach the object, for hardly any two pictures will be found that require exactly the same treatment, as, apart from the ever-varying range of colors met with, there are also great differences in the skies, some paintings have wide expanses of such and others none at all, and these large portions of what may be termed high lights in a painting require to be specially treated in the way of lighting, otherwise these parts are hopelessly over-exposed before the details in the darker portions are sufficiently brought out, and it is only by unwearied practice that anyone becomes expert in the copying of oil paintings. That very much of the success in this work lies in being able to have complete control over the light at command the writer well knows, for his experience, gained by photographing hundreds of oil paintings during recent years, has clearly shown that there is a best form of lighting for this particular class of work, and this will probably be found by those anxious to undertake the work in the direction of a top light alone; but it must also be a very high light, and the studio must also have plenty of length, so situated that sunlight never reaches it. With such a high top light there is no difficulty experienced with reflections from the surface of the paintings, provided they are placed upon the easel in a

vertical position and suitable material is spread over the floor. This is the natural outcome of a simple law in optics, and without a suitable light there will be no end of trouble in equally lighting the surface of any picture, and, in the case of oil paintings, any broad expanse of reflection is quite fatal.

The obtaining in monochrome of correct color value when photographing colored objects is quite a different matter now to what it was fifteen years ago. At that time the reproduction in monochrome of colored objects was considered wellnigh an impossibility, and what was attempted in this direction before the introduction of chromatic plates was confined chiefly to the manipulation of the negative and the special treatment of same in printing.

These negatives were generally produced in a thin, fully exposed form, and were largely worked up by hand, such as the strengthening of high lights and half-tones, and also giving depth to the shadows, thereby lowering the tone of the colors which came out too prominently and raising others to their proper proportions. Although in the copying of oil paintings more or less of this kind of modelling is still practised, the wonderful improvements effected in the orthochromatizing of plates has tended to reduce the labor previously necessary to a very great extent, and now, with a well-appointed system of top-lighting and facilities for shielding certain portions of the objects, results are obtained far in advance of those produced years ago.

In connection with the photographing of numerous light-colored objects, such, for instance, as statuary, the direction of the main light, as well as the quality of the light employed, plays a most important part if pleasing results in light and shade are to be secured. It is quite surprising the difference in appearance such objects will present under varying dispositions of light.

With heavy objects, such as statuary, much difficulty is sometimes experienced when they have to be photographed in unsuitable positions. As a rule, however, a well-diffused top light, backed up with, when necessary, an increase of reflected light at such points as bring into strong relief such parts as require to be portrayed as high lights, will be found to yield excellent results.

Heavy statuary, as a rule, especially in all well-appointed public galleries, is never placed in situation without a considerable amount of thought being bestowed upon the manner in which it is to be lighted; but it will be found very often the ever-varying direction of the sunlight and daylight always yields a particular hour of the day when it is seen to the best advantage, and this should be closely studied when photographing the same.

In commercial work there are innumerable instances where special provision has to be made for certain objects, among which may be mentioned such articles as delicately formed fabrics, in which fine traceries are present, and in which also the design is represented by the form of the fabric, an instance of which we see in lace articles and fine embroideries. When dealing with many of these special provision must be made when stretching them, so that the design of the lace is not interfered with by excessive stretching, and this is best accomplished by using a special stretching frame, which only applies equal tension in all directions. Lace curtains, for instance, have frequently to be photographed for process work.

(To be continued.)

From a Gum Print by ELIAS GOLDENSKY

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ELIAS GOLDENSKY, MAKER OF GUM PRINTS

BY SIDNEY ALLAN

WHENEVER the names of the foremost photographers, the so-called "top-notchers," are mentioned, Goldensky is sure to be among them. Nevertheless, he occupies a most peculiar, vacillating position. He stands alien, homeless, between advanced pictorialism and the regular profession. He realizes this himself, and he has told me more than once, "I am neither one thing nor another."

His ambition lies in the direction of pure pictorialism; but as yet, despite grand prizes and gold medals galore, he has never received the highest recognition. This is largely due to his own reticence. His artistic development is a recent one. He is still in a period of transition and does not feel quite sure of himself, and yet nobody can deny that art dominates in the method that Goldensky follows.

The profession watches him with curious interest. They cannot help acknowledging his superiority. Many take exception, however, that the average bulk of his work does not come up to the standard of the prints he sends to exhibitions and displays in his den and reception-room. And the gum process, in their eyes, amounts to little more than a specialized vehicle of expression (not unlike Phillips' oil process), a clever device to unload an artistic proposition upon the better educated part of the public. Of course, he has his circle of intimate admirers. His "Five o'Clock Club" in social efficiencies competes favorably with Strauss' "Tower Room," the "Little Corner" of Commodore Steffans, and the Holland House luncheons of Alfred Stieglitz. But clan-admiration is always a trifle exaggerated, it is too flattering. The opinion of the outsider is more valuable.

Goldensky professes to be a sincere admirer of the fanatic patriarch of pictorialism. I wonder if he himself has any admirer (present company excluded) who is as loyal as he is in his worship of the *generalissimo* of the Secession? I, for my part, wish Goldensky would discard all the cheaper "shiftmake" work, devote himself entirely to gum prints and artistic interpretations, and double his price. Apparently he has not the courage to follow the example of Clarence H. White or Gertrude Kasebier. He says it cannot be done in Philadelphia. And so he pursues his thorny path (artistically, at least). It is the cheaper work that butters his bread, while just the opposite should be the case. Exercises with draped and undraped models do not constitute portraiture, which, after all, is his chosen vocation. These are the causes of his isolation, of his peculiar half-practical, half-visionary standpoint.

The life of most artists is full of contradictions, and it is up to each one to struggle to that plane and position which by an innate desire he wishes to occupy. It is difficult to argue with Goldensky. He has settled opinions and firm convictions. And there is no reason to expect anything different. He knows better than anybody else what he wants to be, but how to bring the realization of this ambition into proper practical relation with the present status of his business is a problem that nobody can solve for him.

Goldensky is an ardent adherent of the gum print. It is the ideal medium for him. It allows a wider range of individualized expression than any other process. Goldensky's "pictorialism" implies an unwillingness to be impressed by actuality and character alone. He aims first at effect, at effects

light and delicate or beautiful, powerful and extreme. It is with him less exact portrayal and careful presentation of fact than a *partial* interpretation, guided by a particular attitude of judgment. And in the gum process this analysis results in the conveyance of a juster truth.

The people of his prints (of course, I talk only of his best work) do not come close to you. They appear remote, they do not look straight into your eyes as the portraits of old, and it would be a vain effort to imagine that their voices sound in your ears.

Still he gives you much atmosphere, shifting environment, a ceaseless swirl of people coming and going. The great, mixed social world is ever present in Goldensky's print. Formality, with all its seriousness, subtlety, and variation is conveyed by him with an intuition that no other portrait photographer of this country has rivalled.

Goldensky knows that to the artist life is chiefly a matter of perspective; like a landscape painter interpreting nature, he seeks to place himself at the just distance whence the character of his subject becomes a harmony with earth and sky. Goldensky, moreover, again like the painter, seeks to express his portraits, his drawings from nature, only by means of those lines and tones, those harmonies and contrasts, to which the taste of every generation must respond, simply because these tones and harmonies evoke that sensation within us which we call appreciation of beauty. And, accordingly, this Philadelphia photographer, in studying the composition of his subject, loses in its broad masses and tones all that detail of life which does not carry out the particular scheme. It is an exquisite discrimination between the details which reveal a person's relation to pictorial possibilities, and the details which merely exhibit personality.

Goldensky sacrifices an immense quantity of fact, action, and variety in life's scheme for the sake of giving a special poetical interpretation, which he deems of far greater importance. To attain to it in looking at a model, Goldensky instinctively seeks for the insignificant detail which suggests chances for pictorial elaboration and embellishment. He, as well as the average portraitist, will draw a portrait of an ordinary man as he lives and walks about the earth. But what an extraordinary difference between the two portraits! We find that while the recorder of facts has dwelt chiefly in the peculiarities of outward appearance that mark the man out from his fellows, Goldensky has shown us a pictorial interpretation, a harmony that lay latent in this particular individual, without neglecting the portrayal of the essential elements of character.

Goldensky's people are particularly rich in self-expression. Take his women. For instance, his lady with the greyhound, or the young girl moving toward the door. This power of fixing in a portrait both the individual and the art type is the secret only of the best portraitists, and Goldensky is one of the few who has bestowed on us a gallery of portraits of modern men and women, of types familiar to everyday life, that are true at the same time to the higher demands of art expression.

Our mind generally finds itself very much at sea when it is a question of recognizing in what respect a man's art is mediocre, excellent, fine, or great. I admire Goldensky for his ability and the honesty of his struggle. Not many artists keep so persistently in view a particular aim or work out so logically a definite theory of artistic practice, and fewer still succeed in preventing such decided individuality from degenerating into trick and mannerism. He applies to the problem of the moment the means best adapted to the end

he wishes to secure, careful that the particular subject he employs shall not be abused in the process.

The distinguishing mark of any man in any profession is that he gives us the impression of being on a higher eminence which affords a wider outlook than enjoyed by most of his fellow-workers. Goldensky has a keener insight, a deeper sympathy, and a more fundamentally poetic conception of his profession than most. In a few words, his view of photography is wide, intimate, poetic.

His unfailing energy, abundance of inventive ingenuity, and unvarying technical perfection, and the condensation of all these qualities into the one great quality of sincerity—these are factors that can never lose their value as long as there is a steady progress of photography as an art expression.

May he prosper! And finally arrive at the goal which he has set for himself.

THE WOMEN'S FEDERATION

THE Women's Federation will again be a strong feature of the National Convention, gaining strength with each year's work. This organization of women workers will soon be a power to command much attention and

Katherine Jamieson, President Lora B. McDaniels, First Vice-President
Maybelle Goodlander, Secretary-Treasurer

Clarissa Hovey, Boston, Mass.

Pearl Grace Loehr, Brooklyn, N. Y.

Bessie W. Thomas, Springfield, S. Dakota

Mabel Cox Surdam, 2d Vice-Pres.,
Binghamton, N. Y.

respect. Photography as a profession offers an attractive opening to women and increasing numbers are finding it both fascinating and profitable. Many of them have achieved considerable fame.

Study by Pearl Grace Loehr, Brooklyn, N. Y.

At the Philadelphia Convention the Federation has arranged for two lectures to be given by two of its members, Pearl Grace Loehr, of Brooklyn, on "Home Portraiture," and Clarissa Hovey on "Color Photography." We are glad to reproduce portraits of the officers of the Federation.

THE CHOICE OF MATERIALS

THERE is always present among photographers a desire to know what other members of the profession are using, and they are actuated in this by two motives—one is the tendency of imitation of others, and the other is a natural curiosity as to just what is most generally considered to be the best that the market affords. Either motive is good, and, if the inquiries are sincere, it indicates the presence of an ambition to improve the quality of work or to make more money. It is this nervous activity that keeps up the fire of action and aggressiveness that has made the American a symbol of business supremacy the world over. The habit of "wanting to know" is good if it serves to whet the ambition.

In the matter of plates the popularity of any certain brand is generally an indication of its finer qualities. The facts of the case are, that all plates now on the market will yield good results, and it is in the minor details that the popularity of any one brand is established. The first factor is the uniformity and dependability. When a brand works the same at all times, in all climates, and with all kinds of waters it has a big advantage over a plate that varies with the season, or the temperature, or the character of the water. Nothing is so vexatious as to be working along certain lines and then to have a lot of plates go wrong and to discover that it is necessary to make some vital change in the method of handling in order to get back to the standard that has been set. It may be possible that this is due to the manner of making the emulsion, and it may be that the nature of the plate makes it susceptible to such changes. Then, too, it may be the user, for we have found that human nature is very different, not only in different people but in the same person at different times. No man handles a tool with the same degree of skill at all times. He has his "off days," when things will not go right, and, while he is not conscious of treating his materials differently, it is a fact that he is doing this very thing.

Furthermore, no two men treat a plate in exactly the same way. They may work side by side and not get exactly the same results. Therefore a plate that will work perfectly satisfactorily in the hands of one man might not work the same in the hands of another. The consequences is that one man's opinion is nearly as good as another's, provided neither one is an ignoramus. It is practically impossible to state positively which is the best plate made. The nearest that can be approached to a correct answer is to state that there are three or four plates that rank as the most uniform in quality and general workability, and the individual can safely select any one of them and stick to the one that is best suited to his particular style of handling.

In the matter of paper it is pretty much the same, though there is probably a little more variation in the different brands than there is in the lines of plate. The kind of negative a man turns out most regularly goes a long way toward determining the kind of paper that should be adopted, for the negative has a great deal to do with the character of the final print. A light, clean, crisp negative will work well with one brand of paper and poor with another. A heavy, strong negative will require different qualities. Furthermore, the predominate style of

a workman may require certain qualities that another style will not. For instance, light, sketchy vignetted work and heavy dark background, low toned pictures will not show at their best on the same grade of paper. Therefore there is good reason for a difference of opinion as to the relative merits of the numerous brands of paper now on the market, and unless prejudice enters into the question it should be determined according to the character of work that forms the bulk of the business of each gallery.

Cards and mountings offer a greater field for a choice of material than almost any other article used in photography, and it is a department in which greater care should be exercised. The demands of the trade, the preference of the owner and the style of work produced are all factors that should have more weight than the arguments of the maker or salesman who is not conscientiously considering the welfare of the purchaser. It is like style in clothes. A sober matron has no business in the gay colors and beribboned folderols that become youth. The clothes should be worn with some regard to the character of the wearer. Mountings should be purchased with some regard to the user. The steady but not overly brilliant workman should use those designs that are excellent in quality but not extreme in style, while the more talented and, perhaps, more brilliant workman may indulge in the more radical styles and his work will carry them gracefully and effectively.

A photographer who cannot make a style that is dashing and distinctive should not attempt to use mounts that are made for and adapted to work of that character. He should stick to the more conservative styles and shapes. A plain cabinet picture is inappropriate when mounted in a long panel folder that is extremely extreme, it spoils both picture and mounting; but a sketchy panel picture properly worked up and made for the style will set off the mounting, and the result will please that element of patronage that is appealed to by the smart and unusual article. A photographer whose abilities and imaginations lead him into a desire to make extreme styles, should give a little rein to his ambition and, even if the customers do not ask for the work, make a few extras and put out for exhibition some of the more novel styles. In time people will begin to appreciate them and the demand will gradually grow, and a photographer who can and does make unusual things always attracts more attention and gets more advertising than one who sticks doggedly to the old conventional forms.

In studio appointments there is a wide latitude for choice. Many photographers in small places, that cater to a trade that is liable any day to come in with muddy feet and the soil of their work, are of the impression that a carpet or clean floor covering is not only useless but a totally unnecessary expense. Therefore the floor is neglected and becomes splintered and full of dust and dirt, and this spreads to the walls and other fixtures, and it soon becomes impossible to keep the place in a presentable condition. Gradually everything is neglected, until the old shack is a sight. In traveling about we have found a number of studios in communities where the farmer and working man is the mainstay of the business, and we can state from actual observance and knowledge that it is possible to keep a neat floor in a country gallery. A hardwood floor is easily kept in shape if occasionally waxed, and it seems to be the most satisfactory, for the

dust and dirt do not stick to it, but come off easily. Then, too, aside from the path made from the entrance to the desk, which gets the bulk of the wear and dirt, it is possible to lay rugs and matting, and no matter how rough a customer may be, he will respect a clean floor and will not track in mud and dirt if he sees that an effort is being made to preserve a clean and attractive studio. If the place looks dirty when he enters, he will have no compunction about tracking in more dirt or throwing things on the floor.

Lace curtains and gew-gaws are not necessary. We have seen a number of most attractive places where there is hardly a hanging and, occasionally, no rug or carpet; but the cases, tables and chairs, and other fixtures are all in harmony and kept clean. Personal taste has a wide field in the selection of studio appointments, but if there is no particular trend to the taste it is difficult to make it attractive, no matter how much is put into the room. This is also true of the posing room or studio, better known as the operating room. Poor equipment will do good work in the hands of a good workman. Frequently it is a wise policy to get new equipment and accessories, not in order to improve the work, but to make an impression on the customers. In selecting new grounds, chairs, or other adornments of the posing room, thought should be given to the effect on the customer as well as on the convenience and help in doing work that exhibits more class and charm. Many think that it is not necessary to buy new appointments if they will not aid in the improvement of the work. This is not always true. It is wise to occasionally get something new for the effect it will have on the customers. It pays to cater to their sense of appreciation, for they are the ones to be pleased, not the proprietor.

It is hard to convince photographers to put in new and attractive things when they are not inclined to believe that it will pay. It will not pay to simply renew some of the old grounds or accessories or equipment with things just like the old ones. To choose something entirely new and different, something that will make a noticeable addition to the place, will pay, but the matter of choice must be well considered.—*Trade News.*

Cleaning Dishes. The photographer has to be one of quite abnormal carefulness and neatness if the corners of his dishes are to be as clean as the rest of them. This is seen clearly enough in the case of the white granitine dishes, and no doubt holds true enough of the vulcanite and compo dishes, the color of which prevents any dirt that is present from being conspicuous. The reason, of course, is that when the dish is scrubbed out in the ordinary cleansing, the brush or whatever is used does not go right into the corners, or if it does, it does not scrub them with so stiff a fiber as it does the more exposed parts. The only brush I have found of much use is the short, round, stiff one known as a stencil brush. This is very cheap. One figures beside my sink, and whenever a dish is washed, this brush is pushed well into each corner in turn, and twizzeled round. No dirt that has not been allowed to dry on, nor much that has, can resist it.—*T. Richmond.*

THE right way to fit a lens into its flange, is to first turn the lens the wrong way of the thread until the two click at the point where the threads meet, then reverse the movement and the lens will enter its flange evenly.

THE PHOTOGRAPHIC INDUSTRY

(Concluded from p. 236.)

The emulsion is made, as has already been explained, by adding a concentrated solution of silver nitrate to a bromide solution containing gelatine. Negative emulsions also usually contain a small amount of iodide, a percentage of potassium iodide being introduced into the gelatine solution, while diapositive and "gas light" paper emulsions consist chiefly of silver chloride, only a small proportion of the silver salt being in the form of bromide. After the emulsion has been mixed it must be treated in order to increase its sensitiveness or "ripen" it. This can be done either by maintaining the emulsion at a high temperature for a considerable time, or by digesting at a lower temperature in the presence of ammonia. Both methods have advantages, the choice between them depending on the use for which the plates are intended and on the experience of the emulsion maker.

After ripening, the emulsion is cooled by means of ice and set to a firm, hard jelly, and then cut into thin shreds for washing, the washing being necessary to remove the potassium nitrate produced in the reaction. The emulsion is cut up by forcing it by pressure through a metal plate containing a number of small holes, so that it emerges in thin shreds. The press in a factory is usually a hydraulic one. After the shreds have been washed, the emulsion is melted and is then ready for coating.

For about ten years after the manufacture of gelatine dry plates was commenced the glass was coated by hand, each sheet of glass being covered with an even layer of emulsion, usually poured from a teapot, and then laid on a level plate to set; but in all modern factories the coating is done by means of a special machine. There are several forms of coating machines, but one of the simplest is that invented by Dr. Smith, of Zurich, which has been generally adopted in Germany and in several works in England. In this machine the plates are carried chiefly by means of felt bands. The glass is first laid on a dry band, which carries it under the weir. Above the weir is a barrel containing the emulsion, which flows down a tube on to the weir, where it spreads out into a thin sheet, which then flows down on to the plates, which are carried through under the weir by means of felt-covered rollers. The plates are then carried forward separated from each other by a roller moving at a slightly faster rate, and carried on to a long band of felt, the under side of which travels in a tank full of iced water. In travelling down this long cold band the emulsion sets on the glass, and at the other end the coated plates are transferred to a dry band, which removes the superfluous moisture from the backs, and are then placed in racks and taken to the drying rooms, where they are slowly and evenly dried, the process lasting about twelve hours. When dried, the plates are stacked in boxes and taken to the cutting and packing rooms.

The cutting can be done by hand with a diamond, using pieces of wood of accurate widths as gauges, but it is more usually done on a more or less complicated machine. One of the best-known cutting machines is the Munro Cutter. In the table of this machine are four jaws, which open automatically, and close on the plate

when it is laid on the table, centring it and at the same time holding it fast while two diamonds running at right angles to each other slide over the back. The plate is then lifted off the table, and breaks accurately into quarters. It is most interesting to watch one of these machines at work cutting up plates at an enormous rate and yet with certainty and accuracy.

The cut plates are now examined for defects by red light, and then packed in fours in paper, and the three fours packed again in paper and placed in the box in which they are to be sold.

Testing Methods

Since the products of the photographic industry are essentially materials which are sensitive to light, it is clear that chemical analysis will not be a satisfactory method of testing the products, and in practice they have always been tested in relation to the actual purpose for which they are to be used. In the early days of the industry it was customary to have attached to each factory a studio, in which an operator tested the plates by taking a portrait, usually of himself, and either allowing for variations in the daylight and atmospheric conditions, or exposing together with a standard plate, judged as to whether each successive batch of plates was sufficiently good to be issued. While this method of testing has been almost entirely abandoned for sensitive plates and films, papers are still tested in a similar manner, and I am informed by the manager of a most important photographic paper factory, who is a man of the highest scientific attainments, that he does not consider that any photometric test has yet been devised by which so small a difference in the quality of the paper can be detected, as by a skilled printer used to the paper, and printing by a negative to which he is accustomed. If this be so, it would seem to suggest that much work is still necessary for the perfection of the photometric methods which can be applied to paper, and, indeed, so far as I know, very little work has been done on the subject.

The earlier and cruder methods of testing plates have, however, been almost completely abandoned. The first change came when Warnerke introduced his sensitometer as early as 1881, and for many years all factories used some form or other of sensitometer of the Warnerke type for their routine testing. The Warnerke instrument consists of a graded series of densities, with a number printed on the middle of each, and the sensitiveness of the emulsion is estimated as being the last number which can be read after development and fixation. This method has the very great advantage of speed in working, and if used with really constant light, it should be still of great use to the practical emulsion maker for such a purpose as roughly testing his emulsion to see whether it is good enough to coat, or for checking batches against one another to commence packing before a complete laboratory trial can be made.

In 1890, Hurter and Driffield introduced their famous system of sensitometry, in which a plate is exposed for a number of varying times to a standard light source, and after development the mass of silver corresponding to each exposure is determined photometrically, and the relation between the amounts so obtained, which they called the density, and the logarithm of the exposure is plotted on a curve. They showed this curve to be analyz-

able into three sections: (1) Where the rate of increase of density steadily increases, termed the under-exposed portion of the curve; (2) where the increase of density is proportional to the logarithmic exposure, the period of correct exposure; (3) where the density increases less rapidly than the logarithmic exposure, the period of over-exposure. They showed that for a considerable variation of development, the point at which the straight line portion of this curve meets the exposure axis is independent of the time of development, or of the composition of the developer, provided that the developer does not contain free potassium bromide; and this point they took as representing a fixed point, the position of which was proportional to the sensitiveness of the plate. The slope of the curve is dependent upon the time of development, becoming steeper as development is increased, and it can be shown that the relation between the slope of this line and the duration of development follows an exponential function which can be defined by two constants, one giving the maximum contrast to which the plate can attain, and the other being a velocity constant dependent on the composition of the developer, the temperature, and the nature of the plate. In modern photographic factories some form of this Hurter and Driffield testing system is generally adopted as the control for the emulsions, the instruments originally used having been superseded by others capable of more rapid work and of superior accuracy, while the candle originally used by Hurter and Driffield has been replaced by a more modern standard light source, such as the pentane lamp, an acetylene standard burner, or an electric glow lamp with potentiometer control. Different factories at present differ very widely in the speeds which they assign to their products by this means of testing plates, and apart from the tendency to exaggeration, which commercial interests may sometimes introduce, there is no doubt that the photographic industry is, at the present time, sorely in need of a definite standard light source. Two light sources which are photometrically equal to the eye may be of different photographic value, and there is, at the present time, nothing which is in any sense a standard photographic candle. It is impossible here to deal with the conditions which such a standard must fulfil, or with possible methods of approaching it; but there is no doubt that one of the great needs of the industry as a whole is the adoption of a uniform standard in its testing methods.

THE GUM BICHROMATE PROCESS

BY ROBERT DEMACHY

IT has been said already that gum bichromate is but a means to an end. Ready-made sayings are not often as true as this one. For it must be well understood that a gum print, if not interfered with during development or the first stage of drying, is not worth the trouble taken to make it. Also, that the process is perhaps the only one through which the photographer is absolutely responsible for everything —from the choosing of the white paper

to the mounting of the finished print. After this it would seem that no treatise on gum could have any educational value, since the results of gum printing are given by the man more than by the process. At any rate, one can say that an expert in gum is only an expert in his own gum prints. This can be proved by comparing the contradictory working formulæ of the different writers on the subject—and their results. Nor must these be judged from half-tone reproductions only, for nothing is more treacherous to a fine, juicy gum and more flattering to a thin, poorly colored one than the translation by the half-tone block.

Only one course remains for the writer on gum: To describe his own methods, and to trust that his readers are seeking the same kind of effects as he does.

The object of the first, and also most important, manipulations of the gum process is to construct a colored coating on paper—of such a nature that when it has been correctly exposed under a negative it will be able to resist the action of water, and occasionally of friction, in such a ratio that it will come off where it is not wanted and stay where you want it to stay; and, lastly, that, when dry, it will retain as much as possible the oily and juicy aspect that it had when it was wet.

It is possible, but by no means easy, to fulfil the above conditions. Even if they are fulfilled it does not follow, though some people seem to expect it, that the resulting print will be a *picture*. The photographer, to reach the stage of picture-making, will have to learn elsewhere—with his eyes and with his brain—the why and wherefore of the beauty that is found in the works of famous artists in black and white—from Rembrandt to Rops. Now that this is understood, though perhaps not approved of, we will see what is the shortest way out of the purely experimental period. You will have to do the rest.

Materials

Any sort of gum arabic will do for the stock solution provided it *is* gum arabic. For this reason do not buy it ready powdered. Try to make a 50 per cent. solution of gum by hanging it, wrapped up in a muslin bag, in a jar half-full of water, and you will get a 45 per cent. syrup, and also a mucilaginous residue, which it is best to throw away. Get this gum up, or down, to 25 degrees (French densitometer pese sirop), and keep it at 25 degrees. It will have to be looked after, for during the first week or so the solution will get thinner as it becomes more and more acid. After a fortnight add a sufficient quantity of fresh thick gum to work the solution up again to 25 degrees, also a few drops of formol. The formol will keep it at the same degree of acidity and thickness for months, barring evaporation, of course. Finally, make a saturated solution of bichromate of potash and a 20 per cent. solution of ammonium bichromate in separate bottles.

For pigmentation it is best to use moist water-colors in tubes; they are by far the most convenient. There is no waste and no extra grinding, and it is easy to gauge the quantity of the pigment with the eye by the length of the little cylinder squirted out of the tube, for its diameter is constant. Choose permanent colors, of course, and rich tones. With lampblack warmed with a speck of orange cadmium for blacks, and with Venetian red, brown-red, and a small quantity of vandyke brown for sanguine, one can attempt the treatment of any subject, severe or graceful.

As to the choice of the paper, one

condition only is of absolute necessity —that it should be sufficiently sized to prevent any staining by the colored gum rubbed over its surface. All drawing or water-color papers fulfil this condition except perhaps Whatman paper, the sizing of which appears to be very irregular. More prudence will have to be exerted with papers of unknown brands, but of interesting textures, such as those that are used for book-binding, etc. Begin with samples of a medium grain; these are the easiest to coat. Coarse papers take the color well, but are apt to lose it from the apex of each of the protruding grains of their surface during the passage of the dry brush. On very smooth and shiny papers the mixture clings to the brush, follows it more or less, and is difficult to spread smoothly and quickly.

The Sensitive Mixture

Now comes the most important of all the gum manipulations, the making of the sensitive colored mixture. Coating is supposed to be the stumbling-block of every beginner. It is so in a way, but because of the wrong proportions used earlier. Nothing is easier than to coat a sheet of paper with a mixture of the right gummy feel; it is next to impossible to do it with an extra thick mixture, and between there are degrees. Yet it is best to err on the side of extra thickness in the mixture, for the following reasons: (1) The possibility of extra fluidity is done away with once for all; (2) the proper degree of thickness will be obtained, after one or two trials on waste pieces of paper by successive additions of bichromate solution, which has the effect of increasing the sensitiveness of the coating. If, on the contrary, the mixture is too thin, it can only be thickened by the addition of gum, which will lower the sensitive index and the color intensity. Here is a formula which I find works satisfactorily in most cases:

Gum solution (25 degrees) . .	10 parts
Ammonium bichromate and potassium bichromate by equal parts	4½ to 5 parts
Color	To a rich tone

This gives a very sensitive coating, requiring with thin negatives about fifteen minutes' exposure on a cloudy morning in February (one degree and a half Artigue). If on account of any excess of color the spreading is in the least arduous a few drops of bichromate will put it right, for, with such proportions, the mixture cannot be very far from perfection. Of course, the relative proportions of pigment, colloid matter, and chromic salts in this formula are not necessarily the only workable ones. What I mean to say is that the consistency of such a mixture is the best one for coating. A less sensitive compound can be made by taking three parts of ammonium bichromate instead of four and a half, and adding the difference—viz., one part and a half—of water to the gum solution; a still less sensitive mixture by using potassium bichromate. The exposure will change, but the thickness of the mixture will have remained constant. That is the important factor. Remember that badly coated paper will turn out as many failures as there are coated sheets, while error in the time of exposure means one failure perhaps, that ought to lead to constant success with the same batch of prepared paper.

Coating

For coating, three different sorts of brushes are wanted—one for mixing, one for smearing the necessary quantity of mixture over the paper, one for smoothing the irregular layer thus ob-

tained. All three are made of hogs' hair, and may be bought for a few shillings. The first is the common cylindrical brush for oils, with the hairs cut clean, so as to leave about two-thirds of their original length. The second one is a flat oil-brush about two inches wide. The third is also flat, but four inches in width, with a short, flat handle. Get two or three of these last ones. No. 2 and No. 3 are apt to lose a quantity of hairs during the coating, and any delay for the purpose of removing these will be fatal to the success of this manipulation. I have succeeded lately in cementing quite firmly the roots of these hairs with a solution of sealing-wax in alcohol. It must be poured on the roots from one side, holding the brush-handle down. Let it dry in this position. Since then I have had no recurrence of this very annoying trouble, which I am told is general amongst gum-workers. The brush must necessarily be bone-dry before the solution is applied.

Mix the pigments thoroughly with the gum, using No. 1 brush; add the bichromate solution and mix anew. Then pin your sheet of paper by the two upper corners on a drawing-board covered with a sheet of blotting-paper, which you will take care to change when it becomes creased. Take No. 2 brush, dip it boldly into the sensitive mixture, smear the paper with a thick St. George's cross, and immediately spread the pigment across and into the white triangles of bare paper, and level the whole surface roughly with four or five downward strokes; then, without stopping, take hold of the No. 3 brush and give several hard strokes from top to bottom right down to the paper. Parallel lines will appear; break them with several strokes from left to right perpendicularly to the first one, but with a lighter pressure; continue brushing, each stroke at right angles from the last, and with lighter and lighter touches. Watch your coating, and if the surface is uniform and does not coagulate into ridges or round spots, hang the sheet up to dry in a dark room, preferably in a warm current of air, for it must dry quickly and thoroughly. A whole-plate sheet ought to be coated in one minute and dry in ten—bone-dry, with a tendency to curl up. If the mixture has been made too thick, the No. 3 brush will come too late, and the ridges left by the rough smearing of No. 2 will refuse to merge into one another. The coating will be wavy, and will develop unevenly, because exposure ought to be proportionate to thickness, and is obviously invariable for one same sheet of paper. If too thin, the mixture will follow the No. 3 brush up and down and from side to side without setting, and later on will coagulate in lumps, spots, and ridges.

Exposure

Most writers (are all of them workers?) on the gum process advocate very full exposure, and they expound freely on the great latitude allowed by the process in that quarter. I am of a totally different opinion, perhaps because it is not only an *image* in gum that I would like to produce, but something better, with rich and transparent tones. At any rate, I have found that over-exposure is fatal to the beauty of the blacks, and that correct exposure—viz., the minimum of exposure that will allow the coating to stick to the paper and stay there—is an absolute necessity.

I use the Artigue photometer—not a complicated instrument by any means. Paint a strip of white paper with a saturated solution of bichromate, dry it, slip it between the leaves of a book, letting the tinted paper protrude for an

inch or so; expose it to the same light that will be used for printing, and leave it there for ten, fifteen, or thirty minutes, according to the weather, until the yellow protruding paper has become quite brown; now pull it out, the same length, look at your watch, and when the unexposed portion has darkened to the same tone as the exposed one the time elapsed will be the length of the Artigue degree for the actual state of light. If you ascertain by experience that your negative requires two Artigue degrees of exposure (viz., the time necessary to darken two portions of bichromated paper one after the other) you will always be able to duplicate the exact exposure, though the degree will be apt to vary from three minutes to an hour, according to the season and the weather. The average exposure for thin negatives is of one to two degrees; for medium, of three or four; but, of course, the percentage of chromic salts in the coating will modify these conditions; consequently, a trial exposure followed by immediate development is almost a necessity.

Development

Gum prints can be developed one day, or even a week, after exposure, but the final aspect of a picture developed on the spot is immeasurably superior. The conclusion is obvious.

As I have said before, local development is the *raison d'être* of the process. Yet it is safer to begin development mechanically, by letting the print float face downward in a tray quite full of cold water. Watch the print for the first five minutes. If the pigmented gum melts after a minute or two's immersion the print is irretrievably lost through under-exposure. A faint image appearing in the space of ten minutes will give you a fair chance of success, while twenty minutes' soaking before depigmentation will not necessarily indicate failure. In this case a gentle flow of tepid or warm water will generally start development. The print may be left with advantage in the cold bath until the development of the portion of it that will give the deepest tone is judged to be sufficient, for we must bear in mind that the process of washing down does not allow us to add any blacks to our picture; consequently, we shall have to keep those that are on the paper, and by local suppression create the necessary contrasts as we find fit. At this stage the print is removed from the tray and placed on an inclined plane of glass or ebonite, the lower part of which is immersed in a developing tray half-full of water—and the photographer, with sponges, cold or hot water, and brushes of different descriptions, acts according to his lights.

No definite instructions can be given for a class of work that must be entirely personal, and there is no use in obvious truths that will teach nothing to an observant man, and will be of no use to the one who has not found things out for himself.

Once dry, the print must be cleared of all trace of yellow chromic salts by a bath of weak bisulphite of soda (5 per cent.). If this bath is used warm, and stronger, it will soften the film enough for renewed local development by friction.

During development this bath, or a bath of sodium or potassium carbonate, can be used, either generally or locally, to soften the film. It must be applied carefully, for it has a *disintegrating* action, and the portions of the coating that have been in contact with it keep very little hold on the paper.

On Failures

Gum prints, quite outside of their artistic merit can fail in many ways:

1. By extra thickness in the coating. Result: Probable under-exposure, and, with proper exposure, probable breaking off of the film during development.

2. By extra thinness of coating. Result: Probable over-exposure, and in all cases poor blacks and a weak print.

3. Too much color. Result: Granular whites.

4. Not enough gum. Result: Stained paper.

5. Over-exposure. Result: Different degrees of hardness of film. Different degrees in the sunken-in, dull aspect of the shadows when once dry.

6. Under-exposure. Result: Melting of the coating during or after development.

7. Gum too acid. Result: Symptoms of over-exposure, however short the exposure.

8. Gum too alkaline. Symptoms of under-exposure with normal exposure. Loss of half-tones with prolonged exposure.

This is quite a formidable list; but the beginner must realize that all these failures cannot all happen at once. They will be discreetly distributed over the average of his productions, and will serve to enhance the value of his successful ones; though after some time he will find that, as he despises more and more the purely good gum print, and seeks after the gum picture, so will the former become more and more frequent and normal, but the latter remains always the exception.

Before finishing this short sketch of *one* way of printing with gum, I must warn my readers that there are many other ways of producing a complete gum image, most of them founded on over-exposure and brush development, and that the aforesaid indications will not produce similar results. It is for them to choose. Also that the ready-made gum bichromate papers on the market, to be developed with sawdust, have totally different characteristics, due to the admixture of other colloids than gum, and that the treatment of such papers, and the final aspect of the pictures produced on their specially prepared surface, will have nothing in common with the treatment or the results of pure gum bichromate papers.

Lastly, one humble word in favor of my countryman, Poitevin, who, in 1855, presented to the Académie des Sciences the description of the gum bichromate process. I quite sympathize with the late Mr. Pouncy, who took up the process four years after, in 1859, but he no more discovered it than I did, and certainly failed to make it in any way popular.

METHOD

Of the many causes to which failure in business is ascribed, want of method is the last thing that would be admitted, though more often than not the real reason of ill-success. We hear often enough of such explanations from bankrupts themselves as "want of money," "want of opportunity," "bad luck," "bad debts," etc., but if the official receiver could be induced to state the causes of the majority of failures which come under his notice he would say "want of prudence," "want of tact," "want of knowledge," "want of purpose," and above all things, "want of method."

Yes, write it up large: Want of Method; the true cause of half the failures in life. It has broken up homes, destroyed life's prospects,

blighted ambitions, wrecked businesses, and broken men down in the heyday of life with worry, anxiety, and sorrow. It has sent men to work-houses, lunatic asylums, and prisons—aye, and filled many a grave. Yet men will go on trying to do business without method, heedless of the lessons they should learn by the sad experience of others, and blind to the teaching of their own bitter experience when trying to run a business in which method is either inadequate or totally absent. Day by day they are worried by troubles arising from their own errors, or the mistakes of their employees, or harassed by inability to get business done to time, or to make ends meet, and yet they cannot or will not see that the remedy is in their own hands. They blame employees when they should blame themselves. If employees are left to do as they please, it is foolish to blame them if they go wrong.

Let every business man ask himself when a mistake occurs, whether he could not have done something himself to have prevented it, either by giving his employees proper instructions, or by devising a system of checking one man's work against another's which would prevent the possibility of such an error.

It has been well said that the employer should be captain of his ship, and his presence be equally necessary to its safety; even in very large concerns, which may be correctly described as a series of small concerns worked under one management, the employer should generally superintend, and by his books be generally cognizant of the principal details of his establishment.

We too often hear the heads of businesses say: "How can I find time to see after every little detail? I cannot be on the spot always. I have to trust my employees, and they will go wrong sometimes." True, but how often may an error be averted by constant anticipation, watchfulness, and organization. To our mind, an employer who excuses himself to a customer by laying the blame on his employees, accuses himself of weakness, if not incompetence. Never let your customer know or feel that you mistrust your men, or that you have no confidence in some particular department. It implies at once a weak organization. Take the blame on the shoulders of the business as a whole, set the matter right with the customer without entering into long explanations as to what this or that man or department ought to have done, and when you have finished with your customer, review the causes which led to the mistake, delay, or trouble, whatever it may have been; but before anything else, sit down in your own private office and review yourself, and reckon your own responsibility. Don't haul the offending employee onto the carpet and lose your temper in abusing him. Just quietly talk the matter over with yourself. Try to kick yourself, mentally, for having a business in which a mistake was possible. Wasn't there something you might have done to avoid it? Isn't there a want of method about your business? Isn't your correspondence loosely conducted, and are not your letters badly filed, your books badly kept, your orders loosely given, your shop untidy, and your men allowed to become slovenly and unpunctual in their habits? Depend upon it, there's a screw loose somewhere.

Men are very much what their masters make them; their habits, as a rule, reflect the style of business as a whole. In well-managed businesses will invariably be seen bright, intelligent, tidy-looking men, whose every action shows their briskness and smartness. Every man has his place, and

every man is in his place. There may not be an air of hurry-scurry and bustle; it is rather like looking at some intricate piece of machinery, some parts of which go slowly, some more quickly, and some with great speed, but each moving in its appointed way at its given rate, and the whole uniting to turn out something perfected and finished from the raw materials which were put in. There is a master hand and master brain to start, stop, or guide the machine, and if he does his part aright, the mechanism does its appointed work.

"Method," says one writer, "digests the matter that industry collects; it is a habit of saving time to all, and without which no business of any size could be carried on. It apportions time to duties; never trusts to memory. Diaries and indexed books are cheap and invaluable. Arrangement keeps, by means of books, an exact registry of every transaction; it has a post for every man, knows what every man does, a place for every tool, a pigeon-hole for every paper; it keeps all books posted up, by which you are cognizant of what you are doing and have to do, enabling you to send out your accounts to time and make your collections promptly."

If men who are in the position of employers or managers would only study Nature a little, they would see what splendid lessons she teaches us, how everything in the universe has a place "where, though all things differ, all agree." But there are so many men in positions of responsibility who go through life seeing without learning. That is the reason why great success in life only comes to the very few, and they are invariably men of method.

MORE GOOD THINGS AT THE NATIONAL CONVENTION

PHILADELPHIA will open its arms to the photographers of this country in a most hearty welcome during the week of July 22, when the Photographers' Association of America will hold its Thirty-second Annual Convention. Philadelphia photographers are noted for their hospitality, and they have formed a local committee for the purpose of looking after and entertaining the visitors. The convention hall—the Philadelphia Horticultural Hall—is one of the most beautiful buildings in which the National Convention has ever been held, and as all the display booths will be built upon a systematic plan, with beautiful decorations and palms, the effect will be a fine one as the visitor enters the hall.

It is figured that the attendance at Philadelphia will be the largest in the history of the Association, and with this in mind the manufacturers are preparing wonderful displays, and every corner of the building will be full to repletion with pictures, apparatus, and new notions for the photographer. The lecture hall, the picture exhibit, and the manufacturers' display will all be under one roof, and right across the street will be the headquarters hotel —the Walton.

Never before have things been so convenient.

The man who misses the 1912 National Convention will miss the best treat of his life merely from the display point of view, while the entertainment and lecture features are figured on a basis which will mark the Thirty-second Convention as "the leader of them all."

A Real Business Talk at the National Convention

President Ben Larrimer made a ten-strike when he engaged Frank Jewel Raymond of Saint Louis to deliver a lecture on "Business" at the National Convention. This man Raymond is what is called a "business expert." He talks on business building, and he has a right to, for he has made good in his own business. He has lectured all over the country, and has been engaged by the largest department stores to instruct employees in "Service." Retail Merchants' Associations everywhere have engaged him by the week to lecture on "Business Efficiency."

Mr. Raymond is a "backbone builder." He builds backbones of men, and in that way builds backbones of businesses. In his talk he is going to build backbones into photographers and their businesses. The aim of his talks is to help folks lessen waste, increase profits, and get more real joy out of their daily work. Isn't that the kind of talk that you want to hear?

He is an actor besides a speaker, and shows by actual examples how to approach the customer, how to interest him, and how to sell him. Here is a talk worth going a thousand miles to hear.

Most Renowned Pictorialist of America to Lecture at National Convention—Philadelphia

Every photographer who has taken a little more interest in his work than the mere daily grinding out of so many dozen photographs has heard of Alfred Stieglitz, the leader of the Photo-Secession, the leader all over the world in pictorial advancement of photography. Alfred Stieglitz is booked to talk one evening before the National Convention, and while he has no set topic, but steps lightly from one subject to another, he keeps his listeners enthralled with the charm of his words and the strength of his maxims.

He is a most firm believer in the power of photography to express the individual mind. As he says: "If you love your work, then you will find that a beautiful thing has been produced. I never had a brush in my hand; my medium of expression is photography. I have greater faith in it today than ever, and I know I am right, because I have tested it step by step," and he will tell you the position photography takes today as against the position it took in 1890, when, as he says, "Photography, dentistry, and waiting were all on the one level."

You cannot help but go away from the lecture a more thoughtful man, after you have heard Alferd Stieglitz talk, with a greater belief in your profession, and a greater faith in your own self if you have any love for your profession.

High Class Picture Exhibit Planned for the National Convention

Quality versus quantity—that practically states the plan of the exhibit for the 1912 National Convention. Instead of quantities of pictures of all grades of merit, a weary waste in which a man has to use his own discretion in picking out "the best things," the Philadelphia Convention will show its visitors a set of pictures which will at least have reached a certain grade of merit, for every picture submitted to the Convention will be passed upon by a jury who will be instructed to REJECT all such pictures as do not in their opinion come up to a certain standard.

No more than two pictures may be sent in by any man. The pictures MUST reach Philadelphia by July 15,

and any arriving after that date will receive positively no consideration whatever. A catalogue will be ready just as soon as the Convention opens, and the best ten pictures appearing on the walls will be reproduced in the *Association Record*, which will be published shortly after the Convention closes.

Here then is a chance for every man to obtain a double recognition. If his pictures appear on the walls he will know that they have a certain grade of merit, and if one appears in the *Record*. he will know that he has the distinction of having one of the best pictures in the exhibition.

The members of the Women's Federation will have their pictures submitted to the same jury, and to the same rulings.

Atlantic City Day at the National Convention

You will have to hark back to the National Convention at Rochester in 1909 to find an equal for the entertainment feature of the Philadelphia Convention. The officers of the National decided to spread themselves this year, and to give one grand, big, free treat to everybody attending the Convention at Philadelphia. They did not buy up Atlantic City, but they did the next best thing and engaged trains made up of steel cars; the dining hall of one of the big hotels; enough of the finest bathing suits in Atlantic City to fit every man, woman, and child who goes on the trip, and enough tickets to the leading pier and its amusements to go all the way around. So on Wednesday, July 24, starting very early in the morning, it will be "all aboard" for Atlantic City, as the guests of the Association.

You will get your railroad tickets, and your dinner ticket, and your bathing ticket, and your pier ticket handed to you when you pay your dues at the door of the Convention hall. The whole day will be spent at Atlantic City, and late at night you will be brought back again to Philadelphia on the same steel trains. It will be late, but you will be brought back for sure, because you will be needed in the Convention hall the first thing on Thursday morning. They say that the fastest trains in the world run on the sixty-mile stretch between Philadelphia and Atlantic City. Possibly they will not exceed the speed limit for you on July 24, but you will have the time of your life anyhow, both going there and coming back, and when you figure that, and the exhibition, and the lectures, and the manufacturers' display, and the good fellowship of all the photographers—well, honest now, isn't that all worth something, and can you afford to miss it?

And that is not all in the entertainment line, for the Philadelphia photographers and manufacturers are planning an entertainment for one evening which will be an eye-opener. Just what it is is a secret, but it is going to be something big and novel, for that is the way the Philadelphia boys do things.

A One-solution Developer for Bromide Paper that will Keep. A developer for bromide paper that will keep is simple to use, and, moreover, gives fine black tones with good gradations; it can be made as follows:

Metol	32 grains
Hydroquinone . . .	120 grains
Sulphite of soda . .	2 ounces
Carbonate of soda . .	1½ ounces
10 per cent. bromide of potassium . . .	80 minims
Hot water	20 ounces

For use, dilute 1 part above with 4 parts water.

NEW BOOKS AND CATALOGUES

Bromide Printing and Enlarging. A Practical Guide to the Making of Bromide Prints by Contact and Bromide Enlarging by Daylight and Artificial Light Methods, with the Toning of Bromide Prints and Enlargements. Contents. Chapter I. The varieties of bromide papers and how to choose among them. II. The question of light and illumination. III. Making contact prints on bromide paper: paper negatives. IV. Enlarging by daylight methods. V. Enlarging by artificial light. VI. Dodging, vignetting, composite printing, and the use of bolting silk. VII. The reduction and toning of bromide prints and enlargements. 63 pages. Colored covers. 25 cents.

Developers and Development. A Practical Survey of the Principal Developers and Their Characteristic Points: With Reliable Formulæ and Instructions for Their Use in Negative Making. Contents. Chapter I. About negative making. II. Developing agents. III. Composition of developed solutions. IV. Making up developers. V. Points on chemical manipulation. VI. Pyro-soda, pyro-potash, pyro-metol, pyro-acetone. VII. Ortol and ortol-metol. VIII. Hydroquinone, hydro-eikonogen, adurol, amidol, Nerol. IX. Metol, satrapol, rhodol, metol-hydro. X. Glycin, eikonogen, eiko-hydro. XI. Rodinal, citol, tolidol, microgen, duratol. 64 pages, twenty-five cents. For sale by all dealers. Tennant & Ward, publishers, New York.

These two little books complete the Big Six Series and, like the other volumes in the series, offer a mass of carefully digested, practical information on their subjects. We commend them to our readers as honest little blooks, well worth the price asked for them.

The modern catalogue has been wonderfully developed within the last few years, and manufacturing concerns instead of putting out a simple price list of the goods they manufacture, employ the services of writers, artists, designers, skilled halftone workers and the very best printers to produce beautiful little books full of helpful and reliable information and interesting, instructive pictures, to the end that the purchaser has a very clear idea of what his money will buy and how best to get the fullest use from his purchase. Take the new Bausch and Lomb catalogue as an example and see what we have. Within a specially designed cover there are 65 pages of plate paper 6¼x10 inches, a useful article on "Modern Lenses," another on "Terms Used in Describing Lenses," and one on "Selecting Lenses" to illustrate the latter there are no less than 15 illustrations used. Following these articles is a catalogue of lenses and accessories, illustrated and described in detail. In all there are some 86 illustrations, including reproductions of the work of such well-known photographers as Frances B. Johnston, Belle Johnson, Ethel Grant Scott, Frederick I. Monsen, Walter B. Starr, L. C. Bishop and W. F. Turner. The whole thing, well arranged and splendidly printed, reflects great credit upon the advertising department of the Bausch and Lomb Optical Co. If you are interested in lenses you should not fail to secure a copy, which can be had by writing to the Company at Rochester, N. Y.

Another batch of handsome catalogues are those issued by the Eastman Kodak Co., including the Blair Camera Division, the Rochester Optical Division and the Folmer and Schwing Division. The Kodak catalogue listing the full line of Kodaks and Brownie Cameras including the latest addition to the Kodak line—the Vest Pocket Kodak, destined to become a great favorite. It is a combination of compactness, convenience, and completeness. Small enough to slip into a vest pocket, convenient for any occasion and completely equipped for the highest class of photography, producing crisp little negatives 1⅝x2½ that will stand considerable enlargement.

The Rochester Optical Company describes the line of Premo cameras made increasingly popular by the many conveniences of the film pack.

The Folmer & Schwing Division's Graflex Catalogue is unusually attractive, the cover showing no fewer than thirty-seven pictures of difficult subjects caught by the Graflex shutter. This catalogue lists the most efficient and beautifully made cameras on the American Market. The new Home Portrait Graflex, specially designed to meet the requirements of those making portraits at home, should be carefully examined by every professional photographer. One of the special features of this camera that makes it exceptionally efficient in portrait work is the swinging front movement. By a slight turn of a quick acting screw, the front may be tipped either up or down to correct the false perspective frequently obtained in sitting figures or in groups where some of the subjects are placed in front of others. By means of this device it is possible to obtain just the diffusion required in the draperies.

An addition to the Graflex line is the new speed graphic, a camera designed to meet the requirements of those desiring Focal Plane Shutter in a compact folding camera. This new Graflex catalogue should be seen by every professional photographer.

The title page of the new Ansco Catalogue for 1912 consists of this simple statement made by Elbert Hubbard: "Ansco, the means of education and a source of enjoyment for old and young alike."

Here is a camera catalogue that carries a message of great importance to mankind. Its artistic cover design represents the idea expressed by Elbert Hubbard in his interesting preachment "Snap Shots and Education," with which the catalogue itself is prefaced, and the preachment is illustrated with thumb half-tone vignettes showing pictorially the value of any agency that helps to bring the old and young together in close touch with nature and the great out-of-doors.

The illustrations begin with Aristotle whose methods in school-teaching have never been surpassed, and his apt pupil Alexander the Great, bringing us down to this day and generation in which Ansco photography, according to Elbert Hubbard, is "the means of education and a source of enjoyment for old and young alike."

Be sure to send to the Ansco Company, Binghamton, N. Y., for their 1912 catalogue. It is worth having and is one of those pieces of free advertising literature that may be read with interest and profit from cover to cover.

"Cyko Paper" and "Ansco Film" are the titles of the 1912 booklets fully describing these popular photographic twins. Complete and detailed instructions are given for the production of perfect negatives and prints, enabling the photographic workers to secure the maximum amount of good results with the minimum amount of bother and expense.

TRADE NOTES

THE Photo Products Company, 6100 La Salle St., Chicago, have recently commenced making their regular weight grades of glossy paper in pense as well as white stock. Many commercial photographers prefer the pense stock, which hereafter may be had by specifying pense on orders for Instanto Grades No. 2–Hard Glossy or No. 6–Soft Glossy. The pense stock is the same high-grade imported linen quality as used by this company in the manufacture of all their various grades of papers and post-cards. "Instanto" is now being used very extensively among commercial photographers, who will, no doubt, be glad to learn of this addition to the other grades. The paper is well adapted to commercial requirements and is also excellent for amateur, view, or studio work. We suggest that photographers desiring to know more about the "Instanto" or the other products of this company write for a complete price list. Free samples are supplied to professionals. As previously mentioned all the stock used by this company is coated on the back to overcome the tendency to curl.

SINCE the introduction of the Dufay Dioptichrome Color Plate, increased interest in color photography has been shown in all parts of the country and remarkable results are being obtained with more ease and certainty than photographers who have not yet tried this color method imagine. Great progress has been made in flashlight portraiture with the Dufay plate, for which a special green screen is supplied. With a liberal charge of Agfa flash powder good portraits have been secured in one-thirty-fifth of a second. The sizes of plates carried in stock are 3¼ x 4 (lantern slide), 3¼ x 4¼, 4 x 5, 5 x 7, and 6½ x 8½. The manipulation of the plates has been very much simplified, and four solutions only are necessary. GEO. MURPHY, INC., 57 E. Ninth Street, New York, American agents for the Dufay plate, carries a full line of plates, screens, necessary chemicals, etc., and will be glad to furnish descriptive booklets to those interested.

IT 's often the little things that hurt most, and the photographers who have had the tips of their fingers and thumbs poisoned by developer know best the truth of this remark. To those sufferers we recommend Duratol, a non-poisonous developer. It is a rapid developer, and produces essentially the same results as the coal-tar developers. It is economical in use and produces negatives free from fog. Its manufacturers, SCHERING AND GLATZ, 150 Maiden Lane, New York, are willing that you should test these claims at their expense. Write them for a free sample, mentioning this magazine.

SAMPLES of the new Rapid Utocolor paper have just reached us. It will be tested and a detailed description of the results obtained will be given in our next issue. Meanwhile we are advised that this paper is much more sensitive than the first paper used and the colors obtained are much purer, so much so that test prints made under the color chart of a Chapman-Jones plate-tester showed a fair approximation to the colors in the original. With true color rendering and quicker printing time the New Rapid Utocolor Paper will go far to meet the demand for paper prints in natural colors. J. L. LEWIS, New York, the United States agent, is prepared to fill orders for the new paper.

THE increasing use of artificial light in making portraits renders the need of a highly color-corrected lens more imperative. The Dallmeyer Patent Portrait and Dallmeyer Stigmatic Lenses are highly corrected in this respect, which with the other good qualities for which the Dallmeyer name is a guarantee, make them particularly useful for artificial light work. BURKE AND JAMES, INC., of Chicago, the American agents, will be glad to forward a copy of the new Dallmeyer catalogue on request.

As pointed out in an article elsewhere in this issue, it is sometimes good policy to renew some of your accessories, studio furnishings, etc., not because they are worn out, but for the effect upon your customers. They are usually attracted by something different. It will often pay to discard a piece of furniture that, while perfectly good, is beginning to breed that contempt which comes with familiarity. C. B. ROBINSON & SONS, of Grand Rapids, Mich., are making a special line of studio furniture, and their catalogue might suggest something in the way of a business cultivator.

THE increasing demand for bromide enlargements induced G. Gennert to search Europe for the best bromide paper made. This he thought he had discovered a year ago; but the paper did not come up to requirements, and several shipments were consigned to the ash-heap. The search was continued, and a paper equal if not superior to any paper in this market is now being imported. It is being sold under the name of the Montauk Bromide Paper. To prove its qualities, G. GENNERT, 24 E. Thirteenth Street, New York, and 320 S. Wabash Avenue, Chicago, is prepared to mail free sample sheets to interested photographers.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor
MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK
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Yearly subscription in advance, United States and Mexico, $3.00; Canada, $3.25; Foreign Countries, $3.50. Single copies, 25 cents. Subscriptions begin with current issue unless otherwise ordered. Original manuscripts on photographic subjects are solicited, and, if accepted, will be paid for on publication.

EDITORS' TABLE

IN the March issue of WILSON'S MAGAZINE, SIDNEY ALLAN began his article on Maurice de la Tour, in his "Masters in Portraiture Series," with this remark: "De la Tour was perhaps the greatest pastel portraitist of all time." At a recent art sale in Paris, the most sensational event of Paris art rooms in many years, the phenomenal price of 660,000 francs or $132,000.00 was paid for a pastel by La Tour, a portrait of Duval de L'Epinoy. This is the highest price ever paid for a pastel and was a tremendous price to pay for a portrait.

We often hear of photography spoken of as an art, and the camera and lens as a means of expression, and we wonder when it will begin to express itself to the tune of $132,000 per portrait!

WE are glad to see, as announced elsewhere in this issue, that President Larrimer has secured the services of SIDNEY ALLAN to give public and private criticisms of pictures during the Philadelphia convention. We commend President Larrimer on his choice of this subject and this particular critic. Of late years altogether too much attention has been paid to the business end of the studio, too much of the commercial side of photography, and too little to the art foundation upon which photography must stand if it is ever to rise above the glorified tintype stage.

IN connection with the School of Advanced Printing Methods to be held at the National Convention, we would draw attention to the appreciation of "Elias Goldensky, Maker of Gum Prints," elsewhere in this issue, and to the clever reproductions of some of his gum prints. Photographers who are able to attend the Convention will have an opportunity of seeing the originals, but to those who cannot be in Philadelphia this summer the reproductions will give some idea of the possibilities of gum printing as a means of artistic expression.

WE are glad to see President Larrimer's endorsement of SADAKICHI HARTMANN as one of the leading art critics of this country. Under the pen name of SIDNEY ALLAN our readers have been enjoying his articles on the art side of photography for the last eight years. He knows whereof he speaks and his means of expression leave no room for misunderstanding

---

NEW applications of photography are being discovered every day. In London they are using a photographic developer to test bloodvessels for arterial degeneration, and in New York waiters who are out on strike carry cameras and are snapping the waiters who refuse to join the strike, with a view to ostracizing them when ante-strike conditions are resumed. Thus we have man's moral as well as physical degeneration recorded by photography.

Undoubtedly the latest and most comprehensive dictionary yet published is Webster's *New International Dictionary*, just issued, new from cover to cover, and containing four hundred thousand defined words, two thousand seven hundred pages, and six thousand illustrations. Some photographers will argue that they have no need for a dictionary. We have seen evidences in Fifth Avenue show cases that some photographers could use one to advantage. When you feel the need of one for yourself or your family remember Webster's New International, and get the best.

ONE of the most progressive state associations in the country has raised the first official question as to the usefulness of the Congress of Photography. "In view of the inability of the Congress to accomplish anything or show its usefulness in any way, this Association wants to know why a Congress? And why a per capita tax?" The questions are well taken, and if the Congress of Photography is to justify its existence it will have to make a better showing than it has so far. Last year's Congress spent 75 per cent. of its time talking around points of order. It would be well if the presiding officer and the delegates to the 1912 Congress would purchase and study a copy of *Cushing's Manual*, and familiarize themselves with parliamentary procedure.

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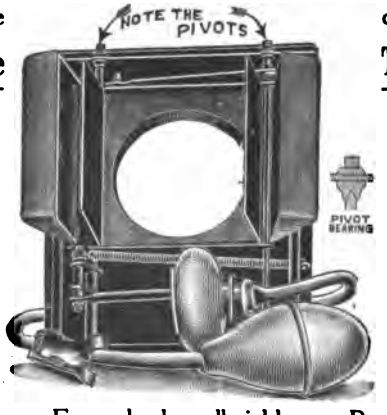

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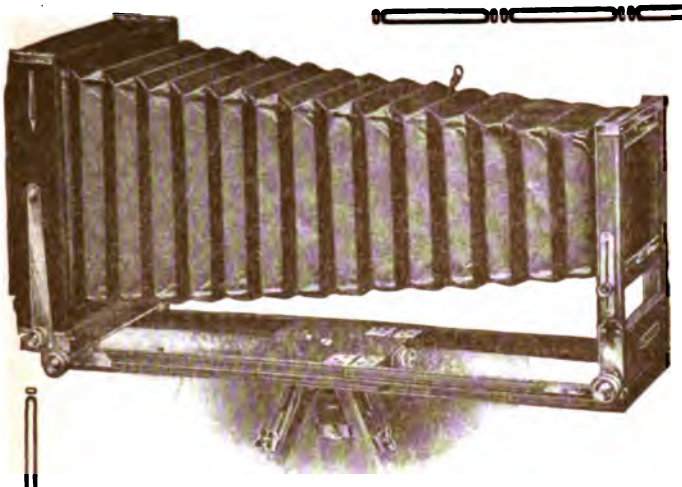

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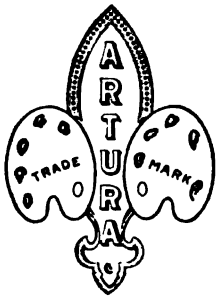

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Vol. XLIX ÷ ÷ ÷ ÷ No. 667

JULY, 1912

WILSON'S PHOTOGRAPHIC MAGAZINE

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Soft	(Red Label)	For contrasty negatives.

Send for Cyko Manual, the key to prize-winning pictures.

Ansco Company, Binghamton, N. Y.

By MANLY W. TYREE

Raleigh, N. C.

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. XLIX JULY, 1912 No. 667

FOURTH ANNUAL CONGRESS OF PHOTOGRAPHY

THE Congress of Photography, which began its career at the Rochester Convention in 1909, under the direction of President Barrows, convenes for the fourth time at Philadelphia in conjunction with the National Convention.

The three congresses so far held have not achieved any great results and we feel that little real progress will be made until each and every association throughout the country is properly represented. With the two National Conventions recently filling the newspapers we cannot help but make comparisons.

In their deliberations and voting we see the big States like New York, Pennsylvania, Illinois, and Massachusetts exercising their influence proportionate to their importance: New York with its 90 votes, Pennsylvania with 76, Illinois with 58, Massachusetts with 36, and so on down the list to Delaware with her 6 votes. A glance through the list of delegates to the Fourth Congress of Photography, printed below, shows a very different arrangement. Taking the important States, as given above, we find that New York is not represented except by virtue of its two ex-presidents of the P. A. of A.; Pennsylvania has one regular delegate; Illinois two regular delegates and one ex-presidential delegate; Massachusetts has four ex-presidential delegates and no regular delegates yet appointed; Indiana with two regular delegates and six ex-presidents.

A congress representing the entire profession could be made a means of progress, but it would be well for the present Congress to spend more time looking into its organization, its upbuilding and broadening than in offering suggestions to the National Convention that have not been considered by a more thoroughly representative body.

Delegates to the Fourth Annual Congress

Past-Presidents P. A. of A. (Past-Presidents are ex-officio delegates): W. H. Potter, Indianapolis, Ind; Joshua Smith, South Haven Mich.; G. Cramer, St. Louis, Mo.; J. M. Appleton, Dayton, Ohio; George H. Hastings, Haverhill, Mass.; Francis A. Place, Boston, Mass.; Adam Heimberger, New Albany, Ind.; C. M. Hayes, Detroit, Mich.; S. L. Stein, Milwaukee, Wis.; E. B. Core, New York, N. Y.; Geo. M. Edmondson, Cleveland, Ohio; Geo. R. Nussbauer, Buffalo, N. Y.; E. R. Reeves, Anderson, Ind.; Frank R. Barrows, Boston, Mass.; Chas. W. Hearn, Boston, Mass.; C. J. Van Deventer, Decatur, Ill.;

Geo. G. Holloway, Terre Haute, Ind.; Frank W. Medlar, Spencer, Iowa; G. W. Harris, Washington, D. C.; A. T. Proctor, Huntington, W. Va.

P. A. of Arkansas: R. S. Kettering, Little Rock, Ark.; John H. Kenney, Russellville, Ark.

P. A. of Canada: Not known.

P. A. of Colorado: Not known.

P. A. of Illinois: L. F. Smith, Freeport; C. L. Venard, Lincoln.

Intermountain P. A.: F. E. Dean, Grand Junction, Col.; Griffiths, Salt Lake City, Utah.

P. A. of Indiana: Felix Schantz, Fort Wayne, Ind.; W. E. Vilmer, Crown Point, Ind.

P. A. of Iowa: Guy N. Reid, Ottumwa, Iowa; Oscar Grossheim, Muscatine. Alternates not known.

P. A. of Kansas: Delegates, Homer Harden, Wichita, Kans.; Will Murphy, Newton, Kans. Alternates, Helen Francis, Topeka, Kans.; H. S. Stevenson, Leavenworth, Kans.

P. A. of Louisiana and Mississippi: Not known.

P. P. S. of Michigan: J. H. Brubaker, Grand Rapids, Mich.

P. A. of Missouri Association: Delegates, L. J. Studebaker, Kansas City, Mo.; F. C. Delporte, St. Louis, Mo.; Alternates, H. Tomlinson, Hannibal, Mo.; C. Kajiwara, St. Louis, Mo.

P. P. S. of New York: No delegates.

P. P. S. of New Jersey: Delegate, U. S. Channel, East Orange, N. J. Alternate, H. L. Keller, Mt. Holly, N. J.

Northwestern P. A.: Delegates, H. G. Andrews, Rochester, Minn.; R. Zweifel, Duluth, Minn.; Cook Ely, Duluth, Minn. Alternates, W. R. Miller, Minneapolis, Minn.; J. A. Fuller, Albert Lee, Minn.; F. J. Bauer, Winona, Minn.

P. A. of New England: Not known.

P. A. of Nebraska: Not known.

Ohio-Michigan P. A.: No delegates.

P. A. of Oklahoma: Not known.

P. P. S. of Ohio: Delegate, Lester Spahr, Wilmington, O.

P. P. S. of Pennsylvania: Delegate, Ryland W. Phillips, Philadelphia, Pa.

P. A. of Pacific Northwest: Not known.

P. A. of Texas: Delegates, Mr. and Mrs. Martyn Elliott, Austin, Texas. Alternates, L. T. Powell and O. Hegemann, both of San Antonio, Texas

P. A. of Wisconsin: Not known.

P. A. of West Virginia: Not known.

First Vice-President Townsend, of Des Moines, Iowa, will act as chairman of the Congress.

THAT NATIONAL ADVERTISING

THE national advertising that is being done on behalf of portrait photography, through the big national magazines, is of such importance to each and every photographer that we have no hesitancy in again urging upon the photographer the urgent necessity of active coöperation on his part if the best results are to be obtained.

Do the photographers realize the all-embracing extent of this advertising? Look at the magazines in the cut below. If you have not one of them on hand send out and get one. You have a wide choice, and the prices range from five to thirty-five cents. Then look up the advertisement with the line across the page—"There's a photographer in your town."

Size up this advertisement with the others in the magazine, and you will have to admit that it is a bold and convincing advertisement—for what? For your business. But the other

fellow—the manufacturer—comes in too, does he! Well! He'll be frank about it and tell you that he hopes to reap some benefit from the advertisement; but don't overlook the fact that the photographer in this case gets the big share of the profits. There is a big difference between the profit on twelve finished prints and that on three plates and twelve sheets of paper.

This advertising must benefit the photographer before it yields a cent to the advertiser; but the photographer must do his share. Don't be lazy and excuse yourself by saying the advertising does not reach your class of trade. Four million people are reached, and they include the people who pay thirty-five cents or as little as five cents for their favorite maga-

zine. Think of it! Four million people with money to spend being reminded of the desirability or necessity of being photographed. And, mark you, they are not urged to be photographed by Jones, Smith, and Brown as the only people who can do it right. No attempt at direction or coercion, just a timely reminder that it's a good thing to visit the photographer and "There's a Photographer in Your Town."

Of course such a vast sum of money spent in this way is going to result in better business in thousands of studios throughout the country; but it is the man who is fully alive to the opportunity that is going to reap the greatest benefit. You can stock a river with fish, but unless the fishermen get out their rods, bait their hooks and get busy, the fish will stay in the river.

Lose no time, cast about and lay your lines of local avertising, and let your share of the four million readers know that you are prepared to make the photographs they are thinking about.

ADVERTISING AND ETHICS

BY E. FREY

ADVERTISING—Will there ever be an end to the discussion of this topic? Well—Hardly!

Just so long as people are in business primarily for the financial results which that business is supposed to yield, just so long will advertising not only flourish but will be vastly improved upon as the exigency of the case or the spirit of the times may demand; and it will be discussed from many widely different view points.

We have Elbert Hubbard's assurance that advertising is as yet "in the perambulator." On the other hand, conservative estimates place the amount spent for newspaper advertising alone during 1911 at the gigantic sum of five hundred million dollars. These figures seem to indicate that it is, at any rate, a fairly healthy infant, and visibly growing.

Advertising by individual photographers has presumably contributed but a very small per cent. to this sum, and it is not a very far cry to assume also that a great deal of even this small sum has, for reasons given a little farther on, been actually misspent.

Any man, possessed of the least amount of gray matter or average business acumen, will admit that *proper* advertising is to business what a good lubricant is to a piece of complicated machinery. The question as to what constitutes proper advertising is of too complex a nature so that, even had I the ability to do justice to the subject, it would be entirely outside the scope of a short magazine article.

There are some aspects, though, of this question that have hardly been touched upon, or very lightly, and one of them—the one this article will attempt to partially deal with—is the ethical phase.

The fact that the Eastman Kodak Company is spending its good money in good chunks to advertise the business (did you get that? I said the BUSINESS), is the principal motive that induced me to attempt this article.

There can be no manner of doubt but that this National advertising campaign will eventually result in a

very substantial benefit to the craft generally, yet we cannot shut ourselves out to another evident fact and that is that this great effort cannot possibly reach its best and *fullest* fruitage unless the individual photographers, on their part, are willing to meet the E. K. people more than half way and put the business on the highest possible *ethical* plane; and this, I believe, can be successfully done by eliminating from our minds and advertisments the ever-in-evidence EGO, the double underscored Capital I.

You may just as well make up your mind now, as any time later on, to the very simple little fact that your public—anybody's public—does not care a farthing what you *think* of yourself or your ability; the one, the only thing they are vitally interested in is what you can *do* for them for their money; and this is the crux of the whole business.

Many photographers, when thrown on their own resources to write their ads, seem to be totally incapable of eliminating the purely personal element, with the inevitable result, as M. P. Gould tersely puts it, that instead of talking *to* their prospective customers they are talking *about themselves;* and the still more deplorable part of the matter is, that while they are in that state of mind they cannot refrain from taking either open or covered flings at their competitors. It must be evident to the simplest mind that advertisments of such a nature cannot possibly reflect credit upon either the advertiser or the business, yet, notwithstanding such glaring deflections, photographers are continually clamoring for higher social and professional recognition. Can you draw your own conclusion?

It is perfectly true that conditions are much better in that respect than they were years ago, but they are still far from what they should be or might be.

Studio advertising in the larger cities is, as a rule, on a much higher plane—from the ethical as well as literary standpoint—than it is in the smaller cities and towns. This is not caused so much from the advertiser's own superior ability along that line, as from the fact that he has good examples continually before him, and because he has also almost instinctively learned to avoid everthing of a blatant nature and to taboo sentences and turns that would offend or jar an educated taste or ear; he also realizes that Ad. writing, *good* Ad. writing, is an art in itself, and will therefore frequently prefer the genteel, dignified and much more effective ready-prepared Ads.

Some advertisments, as we see them sometimes in the smaller cities, are worse than useless, they are positively repellant, and the worst feature is that they do not always emanate from irresponsible little cross-roads studies, but frequently from firms that do creditable work and who would bitterly resent the slightest imputation that they, the firm, were not strictly irreproachable.

Some three years ago, for instance, I saw an Ad. which modestly informed the world at large that the advertiser was "not only better than the best, but better than the rest." Does not such an Ad. carry within itself its own condemnation, no matter what viewpoint you may choose to take? I saw another Ad. in which the advertiser took it upon himself to inform a supposed-to-be-intelligent public that "if WE don't do your work for you, you are not getting the best." These are not imaginary, but almost typical Ads. in the smaller cities, and they might be multiplied by the thousand.

Let us now, for just one minute,

consider the ethical, or rather, the unethical aspect of such Ads. If a photographer in one of our larger cities should accidentally happen to be foolish enough to use such an Ad. he may feel absolutely safe that the public would not pay the slightest attention, and it seems also certain that if any of the photographers of that city should happen to see it they would dismiss the whole matter as a piece of silly ballyhoo.

You can readily see, however, that the case, from its very nature, would be an entirely different one if the same Ad. should happen to appear in a smaller city, supporting, say, from two to five studios.

Let us assume that all these two or five men are doing their level best to support themselves and their dependents from the proceeds of their labors, and that they are frequently working against great odds in doing so; let us also farther assume that, as to their work they are also doing their best according to "the light there is in them." Can you much blame them that they should look upon such an Ad. as a direct personal affront, as a slam at either their ability or integrity, and must it not follow that such a feeling cannot be conducive to fostering fraternal unity? This in turn will react more or less on the public, and from that point back again upon the business as a whole.

The modern, progressive merchant would never think of telling *his* public that if they did not buy from *him* they would be buncoed in the store next door or the one across the street. Why would'nt he? Because he has long since realized that such methods have to be relegated to the times when *caveat empter* was more the rule than the exception. DON'T let it be said that it was left to photography, inherently one of the most genteel, and certainly the gentlest, of all the arts or crafts, to perpetuate such a foolish and unbusiness-like tendency!

Do I hear you complain of competition? Possibly the kind you chose to call unfair? Stop, Look, Listen! What would we be *without* competition, fair or unfair? Let me answer for you: Mere things competition spells: First of all, INCENTIVE, to *DO* (not to do the other fellow); next, improvement; then excellence, and then—

It is worse than foolish to figuratively shout to your competitor to "Get Off The Earth!" In the first place he could not very well do so without seriously inconveniencing himself, and in the second place we know that nature abhors a vacuum, and the vacancy would therefore be quickly filled by others. Isn't it more rational and profitable to make an earnest effort to *out-work* him, than it is to waste self-respect, energy, and valuable time in attempts to *work him out?* You may rest assured that this question will naturally always resolve itself into the well-known maxim of the survival of the fittest. Different people will, of course, look upon life from different viewpoints; but if those who everlastingly complain of life as "a hard lot" could be induced to regard it in the light of a "continous performance" there would be but very little time left to them for their little two by four troubles; they would also realize at once that this little playhouse or theatre of ours, which we are pleased to call the world, is more than large enough to hold us all; at any rate, you have never as yet seen the "Standing-Room-Only" sign displayed, and it rests entirely with you whether you will be on the stage, in the peanut roost, or sitting with the Elite, the Elect.

No, Gentlemen, I do not advocate or recommend a code of ethics such,

for instance, as hedges in the medical profession, and which dogmatically forbids its members to advertise to the public.

If you have a good thing advertise it; advertise it for all it is worth; but, while doing so don't forget to tell your little Ego to kindly "go WAY back and sit down;" then turn on the calcium and concentrate the spotlight full, strong, and steady on nothing but your two star performers—your BUSINESS, your GOODS, and—let it go at that.

After writing this article I was reminded of an incident or episode which happened during my early days in business, and since it throws an interesting sidelight on the matter discussed above I may be pardoned for introducing it.

Some years ago (no need to tell you how many, as this might lead you to think I am an old man) I first embarked in the photo business in a small Texas city of about 4000 people. Before opening my doors for business I called on the tax collector to pay my occupation tax as the law required. Nearly all lines of business were taxed, and the mercantile lines were classified according to bulk of business, *i. e.*, purchases and receipts. Since in my case there was no way of estimating my receipts for the coming year the tax collector was willing to compromise by putting me, for the first year, in the lowest class, and he started to fill out a blank receipt to that effect. After writing a few words he stopped, and turning to me with a pensive expression said: "I just happened to think of it; I believe there is a special law covering your case, let me look it up."

He did look it up and found it; and pointing to it.

"Here it is! See?" Yes, there it was, and I saw, and this is what I saw: "CLAIRVOYANTS, TIGHT-ROPE WALKERS AND PHOTOGRAPHERS" in cities of less than 5000 inhabitants $—— per annum."

Gee! Wasn't that some encouragement for a young fellow with ideals and ambition? Maybe you think I didn't feel like backing out right then and there?

It seems that our Solons, filled with patriotic desire to do something for their country, and, incidentally, earn their per diem, felt it their bounden duty to do something special for or to photography. They were evidently in doubt as to the photographer's social status, and not wishing to hurt his tender feelings too much they were willing to give him the benefit of the doubt by placing him with the fakes and mountebanks. I wonder if their reading of some of the photographic advertisments of that time was the inspiration of that law and classification? Because some of those Ads. were, like Noah's Ark," wonderfully and fearfully made." I do not know whether or not that law still remains a statute in some of the states; but be this as it may, we have succeeded in outliving that period, and we are also fast outgrowing the stigma, and, if it is not too presumptous for me to say so, if the first part of this article is taken in the same spirit as intended, the day is not far distant when the photographic profession will command the same respect and consideration as that of the physician, lawyer, educator, or high-class merchant; and we don't want or need a code of ethics like the first mentioned profession; the only code we need is that dictated by common sense and common business sense.

NATIONAL CONVENTION NOTES

It is no disparagement on past National Conventions to say that the Philadelphia meeting will outdo them all in point of number and variety of features offered.

But then it is natural that it should be so, for a greater attendance is expected this year than ever before.

In addition to the striking talks by Alfred Stieglitz, the world's leading pictorialist, Frank Jewel Raymond, on "Money-getting Means;" Hartmann's public and private criticisms; the school of modern printing processes; the school of posing and lighting, conducted by half a dozen of the best picture makers on earth; the twenty-five minute talks by the twenty most prominent photographers of the country; the splendid exhibit of selected American pictures and the best foreign exhibit ever shown here; there will also be a wonderfully fine collection of autochromes and color transparencies under the charge of Wm. H. Rau. Color transparencies by the autochrome and other processes are not any longer new, but photographers as a whole are only just beginning to get thoroughly interested in them. This exhibit at the National will show the great possibilities of color transparencies and will probably be one of the big features of the Convention.

Text-book on Oil and Gum Printing to be Issued by the National Association

It is rather unusual for the P. A. of A. to go into the publishing business, but President Larrimer does things in an unusual way, so this year the Board has had prepared a text-book on the Oil and Gum Printing Processes, following the methods that will be demonstrated at the National Convention this year. There is bound to be a vogue for gum printing and oil printing after this year's Convention, and there is no book yet published in this country covering those processes in detail.

The book is written by the six experts who have been engaged to conduct the school, and it will be given free to every member of the Association. When you figure that you get the magnificent Association Record, this new text-book, and all the lectures, exhibitions and entertainments for the small amount of your yearly dues, you have got to admit that the P. A. of A. is "going some."

MR. RICHARD N. SPEAIGHT

Special Interview with the President-elect of the Professional Photographers' Association of Great Britain

[The following highly interesting interview with the President-elect of the English equivalent of the P. A. of A. is reprinted by the courtesy of Kodak Limited, London, from *The Professional Photographer*. Mr. Speaight is one of the most progressive and successful photographers in Great Britain and in this interview he delivers the best "Keynote" speech on pro-

fessional photography we have read in a long time. We commend it to your careful attention.—Eds. W. P. M.]

"*Remember, every picture that leaves your studio is an advertisement, good or bad.*"

This is one of Mr. Speaight's epigrams: and the new President-elect sparkles with epigrams whenever he starts to talk about photography. He is a young man for the honor which his brother professionals have just bestowed upon him. He is still many years on the right side of forty. Sixteen years ago he opened a studio in Regent Street, London, with his brother Frederick, who achieved fame a few years ago when the roadways of the Marble Arch, Hyde Park, were replanned in accordance with his designs. Eight years after the firm of F. R. Speaight was founded, it was turned into a limited company, the capital of which is now £50,000. ($240.000.) Though these two brothers started with no professional connection and with no influential friends, their new Bond Street studios have been now a fashionable resort for many years. Their success, however, has been only a natural result of continued effort and watchfulness. When asked if the increase in the business had been steadily maintained, Mr. Richard Speaight replied quite frankly that it had not.

"It was standing still three or four years ago," he said. "Whenever anything goes wrong, I always blame myself first, and, as soon as I looked at my own work in this critical spirit, I recognized that I was getting into a rut. I was a slave to ideals that were four or five years old. I had not realized that the public had outgrown their earlier taste. I made up my mind to change my style at once—and I did. The result was an immediate improvement in business. You can often give the public a lead," he said, "but, in the main, the public is your master, and you must follow him. No photographer is strong enough to ignore public taste."

As might be expected, a man who searches for his own shortcomings in this way has little time to criticize his fellow-photographers. It may be safely prophesized that Mr. Richard Speaight will do little preaching in his president's chair. He takes a broad view and recognizes that each man has his own difficulties, and must solve them in his own way. He is tolerant toward everyone, except the man who runs down his chosen profession.

"It is a *great* profession," he says, "and it is better now than ever it was. It is not photography that is at fault: it is the photographers. We are all too prone to think our own work better than our neighbor's. It is a great pity that we cannot be brought to criticize our own pictures in the same scathing way that we criticize our competitors. If only we would improve our work instead of cutting our prices, you would hear very little grumbling about hard times. We are standing in our own light. Photography itself is all right. It will be a great profession when we are all forgotten."

It is delightfully refreshing to have a photographer turn the tables on the croakers in this fashion. Mr. Speaight, indeed, does not think that photography is given a fair chance. Apprentices are no longer trained as carefully as they used to be. In the mad rush for cheapness, the quality of nearly all work is skimped. The price-cutting photographers turn out pictures which are technically and artistically so bad, that it is no wonder people get disgusted with photography, and say that it has made no progress for years. Above all, photographers do not take the pains to impress the public favor-

ably with their work. They forget that every picture in their studio is an advertisement good or bad.

"What other business could survive such window displays as we make?" he asks. "How many drapers, or milliners, or hosiers could pay their rent if they filled their windows and show-rooms with goods which were three or four seasons out of date? Many professionals have not yet awakened up to the fact that there are fashions in photography just as in every other business. Go into their reception rooms and you will see dozens of pictures that were old fashioned years ago. It would be a great thing for our business if a few suffragette window smashers were turned loose in our premises. A photographer who has not the moral courage to scrap his specimens as soon as they become old-fashioned, does not deservve fresh clients."

Certainly Mr. Speaight carries this principle out in this own studio. Spacious as his reception hall is, it contains very few prints, and these only his best and *his latest*. His four receptionists are trained to size up each client, and to show her only two or three examples of portraiture which seem likely to appeal to her taste and her purse. No photographs at all are shown in the waiting-rooms and dressing-rooms. He tries to make his premises look as little like a studio as possible. Even in his operating room many of the signs and portents of photography are missing. A genuine old Jacobean chest holds his dark slides. Other little accessories are hidden away in an antique oak cabinet. Old oak panelling takes the place of the usual background. If he could do without a camera or conceal it in a grandfather's clock he certainly would do so. No photographs are shown on the stairway or in the passages leading from the waiting room to the operating room. And yet Mr. Speaight has plenty of work that he could show if he wished. Fifteen years ago he photographed every Royal child in England. He has been invited to Berlin to photograph the Crown Princess of Germany and her children, and to Madrid to photograph the Queen of Spain and her children. Three years ago he had the audacity to hold a one-man exhibition of his work and make the people pay a shilling to enter his studio, and the audacity was highly profitable. The present Queen was one of the visitors. In the reception-room visitors may now see a beautiful minature of Her Majesty by Mrs. Speaight, who before her marriage was the well-known minature artist Miss Alice Langford Cundy. This miniature is, of course, only a replica, the original being in the possession of the Queen, who gave Mrs. Speaight special sittings for it.

When asked if he had any message to give to his fellow-craftsmen through the pages of *The Professional Photographer*, Mr. Speaight protested with his usual modesty.

"That is a little premature, I am afraid," he replied. "Remember, I am not the President of the Association: I am only the President-elect. In any case I could not say anything more to the point than President Moffat said in your February number. I should like to associate myself whole-heartedly with this message which he gave there:

"Respect yourself and your work. Combine and do not cut prices."

Developer for Gray Tones on Bromide Paper. Metol is the best for this purpose. Take water 20 ounces, soda carbonate 1 ounce, soda sulphite 1 ounce, metol 20 grains. This may be used neat or with an equal quantity of water, or try rodinal 10 to 15 minims per ounce of water.

KEEP YOUR PRICES UP. SOME OF THE EVILS OF PRICE-CUTTING

It is a significant fact that Mr. F. P. Moffat, the President of the Professional Photographers' Association of Great Britain, and Mr. Richard N. Speaight, the President-elect, in the interviews published in these columns, both attack strongly the prevailing practice of cutting prices. Their views are fairly representative of the views of the best men in the profession.

When trade is bad, there is a natural temptation, if not a tendency, to reduce prices. It seems the easiest and quickest way of meeting competition. Generally, however, there are other and better ways — ways which are not followed by evil results either to the photographer himself or to the profession as a whole.

The photographer who is tempted to cut prices at any time should remember that every man is valued more or less at his own figure. If you charge five shillings a dozen for your cabinets, you set yourself down as a five shilling man; if you charge fifty-five shillings a dozen, you set yourself up as a fifty-five shilling man. And your work is usually worth just about the price that the public pays for it. If ever you are going to make a reputation for yourself, or if ever you are going to lay aside a bank balance, do not debase you work or demean yourself by cutting prices.

The professionals who call this price-cutting tune never seem to recognize that they are the ones who have to pay the piper. People are being spoiled at their expense. The price-cutters have created in the public mind an utterly false standard of value. They have fostered the notion that a photograph is worth no more than the materials and the time that go to its making—just as if a painter were to charge merely the cost of his canvas and his colors, and twenty cents per hour for his own work. Is the customer to pay nothing for the art of the man at the easel or the camera? Is the photographer to get nothing for his technical skill in posing, lighting, and retouching? Is no account to be taken of the years he spent in perfecting himself in his work? If all such considerations are to be ignored, why not pay a chemist merely the cost price of his drugs, bottles, and labels? What is the use of discussing whether photography is a profession, or an art, or a business, if it is to be treated, not as any one of the three, but merely as the trade of a day-laborer?

There might be some justification for price-cutting tactics if your first cut were your last or if you always had a woman's privilege of the last word. Experience teaches, however, that you have neither of these safeguards. It is always open to your competitor to go one better. If you give your customers six postcards to-day for 2/6, they will want them to-morrow for 2/3, the day after for 2/-, and the day after that for 1/6—and somebody will be sure to give them what they ask for at their own price. There are to-day many photographers who give six postcards and a whole-plate enlargement for 1/-. Until your price-cutting competitors have got down to that level, they cannot consider that they have reached bedrock: if they are not prepared to go down to that level, they had much better not start the price-cutting game at all.

If your competitors try to make a paltry saving by purchasing second-grade supplies, they gain nothing—for

even if you disregard quality and look only at the price, their advantage is soon lost. Within a month, one of them will be sure to give away the saving to the public, and then the others have to follow suit. The result is that all of them are worse off than they were at the beginning. The quality of their work falls, their turnover decreases, their reputation suffers, their profits stand still, and the competition remains just as keen. Turning out cheap work never saved the situation for any photographer. Buy in the best market by all means. Do not pay one manufacturer any more for his goods than you have to pay for goods *of equal quality* elsewhere. But quality is essential. You owe it to yourself to use only the best materials, and to put your best effort into all you work. Do that—and you will find little difficulty in maintaining your prices.

People, in fact, are getting tired of cheap work. They want something better. A revival of taste has set in, and the future belongs to the man who does good work. Instead of turning out poor prints or gaudy mounts to sell at low prices, the prosperous photographer will henceforth be the one who is always striving for something better in his prints, in his mounts, and in his prices. Already, there are scores of photographers who are asking manufacturers for a line of bigger mounts. The larger size appeals to the public taste, it fetches a higher price without any difficulty, and yields the photographer a much bigger profit.

Experienced photographers know that there is comparatively little trouble in making people spend money if you only show them how to spend it. Last Christmas the writer saw two photographic orders from private clients which totalled over £800! ($3840.00.) The fortunate photographer was a man who condemns price-cutting as strongly as either Mr. Moffat or Mr. Speaight, a man who is always looking for some excuse, some legimate excuse, for raising his prices. He makes it a rule never to enter his operating room for less than two guineas, and he is always prepared to lose a customer rather than to break that rule. Of course, he is catering to a high calss of society, but he says that the principle in the same in all cases. Other photographers may enter their operating rooms for 5/-, or 10/6, or a guinea, but let them fix on some minimum and stick to it.

There is more than dignity and immediate profit in this policy of price maintenance: there is security for the future. The price-cutter has no hold on his public except the precarious hold of price. His whole connection will leave him to-morrow for any rival across the street who may offer the same goods at sixpence less. Not so with the man who has built up his connection on technical excellence or dictinctiveness in style. He has the satisfaction of knowing that, though prices may be cut with a stroke of the pen, his rival will have to spend years of hard work and experience before he can compete with him on quality.

This question of price-cutting is a serious question for every man in the profession. If the photographer does not use the best materials, and use them generously, he cannot achieve a high standard of technical excellence in his output. If he does not devote abundant time and trouble to the execution of every order, he cannot hope that his picture will be marked by any great artistic excellence. Artistic and technical exxcellence must both be sacrificed by the price-cutter—and, when they are sacrificed, what is left? Nothing that cannot be done by the most ordinary and ignorant amateur dabbler who cares to come in and start

up in opposition to you to-morrow. The general cutting of prices is an open invitation for every Tom, Dick, and Harry to come in and set himself up as a "professional." And these newcomers who have served no arduous apprenticeship, who have nothing at stake, and who need no capital, no knowledge, and no taste, soon find it a simple matter to beat the price-cutter at their own game. Surely it is clear that every photographer ought to join in the general movement to check this downward trend.—Kodak Ltd's. *The Professional Photographer.*

OZOTYPE

BY THOMAS MANLY

[THOSE of our readers who expect to attend the School of Modern Printing Processes at the Philadelphia Convention will be interested in the following account of Ozotype by Thomas Manly, its inventor.—Eds. W. P. M.]

Gelatine Ozotype

Gelatine Ozotype is a modification of carbon printing, and possesses the great advantage that the image is plainly visible during printing, thereby dispensing with the aid of an actinometer. The transferring, which is necessary in ordinary carbon printing, is not required in ozotype, as the pictures are always the right way round.

The prints may be very easily worked upon with a brush during development, as in the gum-bichromate process.

The main difference between carbon and ozotype is that in the former process the film of pigmented gelatine —*i.e.*, carbon tissue—is sensitized, and after exposure to light is brought into contact with the paper which ultimately forms the base, while in ozotype the actual paper selected is sensitized, printed, and washed, and the insensitive pigmented gelatine film is placed upon it in the presence of a weak solution of acetic acid, copper sulphate, and hydroquinone. This solution acts upon the printed image, and an insolubilizing action proceeds upward through the film, and, at the same time, firmly attaches the insolubilized gelatine to the paper base. The gelatine unacted upon is subsequently removed by developing with hot water as in the ordinary carbon process.

As many of the carbon worker's troubles arise from insolubility of the tissue, caused by errors in sensitizing and drying, or by keeping the bichromated film too long in a sensitive condition, it will at once be seen that the advantage of using the tissue in an insensitive state is very great. It may be urged that the sensitive paper used in ozotype printing is likewise subject to deterioration, but as the cost is very little, this consideration does not outweigh the advantage.

It is possible also in ozotype to expose and wash the initial prints while the paper is fresh, and complete the pigmenting operations after many months, if more convenient.

Preparing the Paper

The printing paper is procurable ready sensitized, but the worker may very easily size and sensitise any paper which takes his fancy. The Ozotype

Company[1] supply a sizing solution which, although a gelatine preparation, remains liquid at ordinary temperature. This can be rubbed over any good-quality paper with a flannel or brush, and, when dried, the paper is ready for sensitizing.

The operation of sensitizing is exceedingly simple. The paper to be coated is pinned down upon a table, and a small quantity of sensitizing solution, mixed with a few drops of gum or colloid solution, is poured upon the middle of the sheet. This is spread quickly over the paper by means of a pad made of a handful of cotton-wool wrapped in a piece of fine flannel. Hardly any practice is required to get a nice, even coating of solution, but if any inequalities remain, a piece of soft muslin or an old handkerchief, passed lightly across the surface, will put the matter right. If any fluff from the flannel remains on the paper it can be removed, when dry, by a fairly hard rub with the muslin.

The surface is only sensitive when dried, so that quite a comfortable amount of light may be used for coating. The drying should take place in a warm, dark room—any ordinary darkened room with a fire in it will answer quite well. The paper will probably be dry in from ten to twenty minutes, according to the temperature.

The sensitive paper, now a bright yellow color, is printed in daylight till all the details, except very light clouds, are plainly visible. The image is somewhat similar to platinotype, though deeper in color. As the paper is several times quicker than P. O. P., the frames should not be examined in direct light.

The washing of the initial print is the most important operation in ozotype printing, as, if any of the unacted upon salts are left in the paper, the resulting picture will be fogged, while gross overwashing may produce a weak picture.

The washing is dependent upon the temperature of the water, the undermentioned times being generally sufficient:

6 to 10 minutes in summer.
15 to 20 minutes in spring and autumn.
20 to 30 minutes in winter.

If running water is not available, wash in not less than four changes of water for five minutes longer than the above-mentioned times.

If the paper is suspected of being slightly stale, wash rather more.

The margins, caused by the rebate of the printing frame, should be quite white and clean when taken from the water.

The prints may now be dried and stored away to await the worker's leisure, or they may be pigmented at once.

Pigmenting

The following concentrated acid bath should be made up, or it may be purchased ready for use:

CONCENTRATED ACID SOLUTION

Warm water . . .	10 ozs.	or	300 c.c.s.
Pure sulphate of copper	14 drms.	or	50 grms.
Glacial acetic acid .	5 drms.	or	18 c.c.s.
Glycerine	4 drms.	or	15 c.c.s.
Hydroquinone . .	4 drms.	or	15 grms.

This solution will keep good for many months.

WORKING BATH

Concentrated acid solution, as above . . .	4 drms.	12 c.c.s.
Water	40 ozs.	1000 c.c.s.

The diluted acid bath will keep good for about three days, and may be used for a number of prints in succession.

Prepare two dishes somewhat larger than the print to be pigmented, and

[1] Geo. Murphy, Inc., New York, American Agents.

pour into one the working bath and half fill the other with cold water.

Place the print in the water, and a piece of pigment plaster (which consists of pigmented gelatine coated on a paper backing) into the pigmenting solution, face downward.

After about half a minute, turn the plaster face uppermost, and remove airbells. Now take the print from the water, and draw it face downwards along the surface of the pigmenting solution (to displace the water), and then bring it into rough contact with the plaster in the bath.

Withdraw the two papers, clinging together, from the bath, and, with a flat squeegee, press them into absolute contact upon a sheet of zinc or glass.

Note that the operation of bringing the print to the plaster in the pigmenting bath should be done rather quickly, otherwise the acid may weaken the print.

The print with its adhering plaster should now be placed upon blotting-paper or pinned up until ready for development.

At the expiration of about half an hour, immerse the plastered print into hot water at about 115° F., and in a few seconds try at the corner whether the papers are likely to separate easily. If such is the case, remove the backing paper with a steady, unbroken pull under the surface of the water. The print may now be developed by allowing it to float face downward in the water till the soluble gelatine is washed away, or development may be accelerated by placing the print upon a firm support, and pouring hot water upon it from a mug.

The print at this stage may be easily worked upon with a brush, which should preferably be of Siberian hair.

When dried, the print is ready for mounting, though a preliminary hardening bath of 5 per cent. alum may be employed by the very careful worker.

Gum Ozotype

The ozotype method of printing can also be used for producing pictures in pigmented gum, but in this case the mixture of gum and color is not applied to the print in the form of a plaster, but is mixed with a small quantity of the gum ozotype acid solution mentioned below, and spread upon the washed image by means of a brush.

In addition to the convenience of a visible image, gum ozotype possesses several advantages over the ordinary gum process.

In gum bichromate printing development takes place from the surface of the film, which has been insolubilized by exposure to light; consequently, the light half-tones of the picture have a certain thickness of soluble gum beneath them, instead of resting on the paper support. In ozotype the picture insolubilizes upward from the paper, leaving the soluble gum on the surface.

In consequence of this fact, the detail and gradation are finer than in the old process, and evenness of coating is not so essential.

Any depth of color is obtained with ease, thus avoiding the trouble of multiple printing.

Any good quality paper may be used for gum ozotype, and it may be either thinly sized or left unsized, according to the worker's liking.

The sensitizing, printing, and washing should be carried out as for gelatine ozotype.

The gum solution should be composed of one part of gum arabic to two parts of water, and it is in its best condition when it has been made up two or three weeks. A few drops of formalin may be added to preserve it.

The pigmenting solution is made as follows:

Water	100 parts—say, 6 ozs.
Sulphuric acid (pure)	1 part —say, ½ drm.
Sulphate of copper (pure)	10 parts—say, 5 drms.
Hydroquinone . .	2 parts—say, 1 drm.

This solution will keep good for several months. For use take 4 drams of the gum solution, mix it with two drams of the pigmenting solution, and add sufficient pigment. Tube or moist colors are the best, and save much labor in mixing. The amount of pigment depends upon the effect desired and the particular shade used. Blues and blacks generally need very little while light colors, such as red or warm sepia, require several times as much. The actual amount required can only be ascertained by actual experiment.

Pour the gum and pigmenting solution into a small mortar, and give them a stir with the mixing brush—a small, round paste-brush with the bristles cut short will answer quite well. Take with a penknife or spatula a small amount of color, wipe it upon the mixing brush, and stir with a gentle motion for some minutes. When the pigment seems to be fairly embodied in the gum, finish the mixing by vigorously stirring with the pestle.

The tint may be judged by dabbing a little on a piece of white paper, and spreading it with the finger-tip. Dark colors should appear much lighter than the required depth—for instance, black should appear a medium gray. It is better to use too little pigment than too much.

For spreading use a flat hoghair brush, rather thick in the bristle. Charge the brush with the gum and color, and spread rapidly over the dry initial print with a circular motion. Do not attempt to get a smooth coating, but take care to spread the mixture over every part. Now take a little more color on the brush, and finish the coating by even strokes from left to right and from top to bottom, gradually diminishing the pressure until a fairly even coating has been obtained.

The coating may be completed by lightly dabbbing the surface with a hoghair softener, but this is not strictly necessary.

As the chemical action which produces insolubility of the gum only takes place while the film is in a damp condition, it is essential that the drying should be delayed for about half to three-quarters of an hour. This may be accomplished by hanging the coated paper, as soon as it had been spread, in a closed cupboard, at the bottom of which a dish containing water has been placed.

It is best to have the print almost dry before developing; it should, therefore, be hung up in a good current of air for some minutes after being taken from the cupboard. If more convenient, the print may be dried and developed next day.

Development may be effected by simply floating the print face downward in a dish of cold water, finishing by softly spraying cold water upon it; but it is a better plan to start development by lightly passing a Siberian hair mop-brush all over the print, which will half-reveal the picture and remove most of the inequalities of spreading. Development may then be completed by soaking or laving with cold water, or by local work with a brush.

The print when dry is ready for mounting.

Clean your porcelain trays from uranium stains by using a strong solution of washing soda. In using uranium it is a good idea to protect the fingers with rubber finger-tips, a set of three costing fifteen cents. This will help you to avoid stains on the hands when working with uranium.—*T. G. Finch.*

By MANLY W. TYREE

Raleigh, N. C.

By Mary Carnell

Philadelphia, Pa.

By MARY CARNELL

Philadelphia, Pa.

By MARY CARNELL

Philadelphia, Pa.

By MARY CARNELL

Philadelphia, Pa.

1 Edith

2 Agnes

3 Mme. Leo Mullziner

4 Mercedes Walton

Illustrating Sidney Allan's Article

5 Nora

6 Margaret

7 Winifred

8 Phyllis

Illustrating Sidney Allan's Article

9 Dr. John Yerks

10 George W. Kochersperger

11 The late Justice D. J. Brewer

12 Chief Justice Edward D. White

Illustrating Sidney Allan's Article

ALBERT ROSENTHAL—A PHILADELPHIA PORTRAIT PAINTER

BY SADAKICHI HARTMANN

THE dominant characteristic by which practically the whole of Albert Rosenthal's work is distinguished can, perhaps, be best described as a keen visual appreciation. A son of the mezzotintist Rosenthal, one of the best engravers the world of graphic art has ever called its own, he has inherited the faculty to see objects in detail, to analyze them from the viewpoint of a black-and-white artist before translating them into color values.

For many years his work was of an official historical character. It is Rosenthal who has made, collected, or printed most of the historical portraits of the permanent collections at the Independence Hall, Philadelphia, and the Capitol, Harrisburg, Pa.

Work of this kind is generally of an inferior order; but this does not hold good with Rosenthal's selections, purchases, and personal contributions. He is too much of an artist and paints too well to deliver any slipshod work. Every one of his historical personages is as reliable a likeness as it could possibly be under the circumstances. He has the training of the portrait-engraver and lithographer, and will go to any amount of research study, exhaust every available source, to produce the necessary material which may furnish him with the accurate structure of the head and face and the personalty of the character. After gathering these dry facts, Rosenthal the connoisseur of "Americana" entirely disappears from view, and Rosenthal the painter has full sway of the situation. The result is invariably an artistic one, as he is well versed in the principles of composition and a master of a dexterant and fluent technique.

In recent years he has found time to develop into a fashionable portrait painter. He has painted more notables of our political life—mayors and judges of the Supreme Court and district attorneys, etc.—from life than any other painter in the States, and in a way they represent his best work. Look at his portraits of Justice David J. Brewer and Hon. Edw. D. White, Figs. 11 and 12. There is something big about them. A superb breadth prevails in every details. The judges of the Supreme Court are our highest dignitaries and they appear so on the canvas. The forms are bulky. Supported by the flowing official robes (slightly exaggerated in volume) they assume a commanding and imposing shape. The brush work is remarkably free. Study the treatment of the face and hands in both pictures. Rosenthal knows how to handle pigment and brush, every stroke tells, and a few sittings of two or three hours each enable to finish a portrait.

"Mme. Leo Mullziner," Fig. 3, is a specimen of his fashionable portraiture. The pose is extremely simple and well balanced. Particularly noteworthy is the massive treatment of the lady's gown and the vibrancy of the plain background. But after all it is a regulation portrait. The painter is not quite satisfied with this conventional style of portraying people. He wants more freedom in composition. It is the same old trouble that every portrait painter has. He wants to do the unusual and the customers won't let him. And only if he achieves a reputation as a "painter" will the

public permit him to follow out his own idiosyncracies. A Sargent, Zorn, or Blanche can allow themselves to do things which would be absolutely impossible to the unknown portraitist. It is strength and individuality of personality that wins out in all matters pertaining to art.

Rosenthal has the right kind of an ambition, and although no longer a young man he has set out to conquer, and during the last four or five years produced a series of portrait studies that have been admitted to all the leading exhibitions and aroused favorable comment everywhere. Figs. 1, 2, 4, 5, 6, 7, and 8 belong to this galaxy of pretty young girls. Their titles are just named Agnes and Edith and Phyllis, but they are really color arrangements. For instance, Fig. 1 is executed in various shades of blue, while Fig. 4 is all in pink, a grayish rose tonality. Rosenthal attempts or rather succeeds in each of these pictures to invent a new color scheme, to exhaust as far as it is possible the tones of one color. They are color arrangements seen across a feminine temperament. The individuality of the model, her complexion and the color of her hair, her figure, hands and physiognomy, suggest to the painter the color and space arrangement which is most suitable to bring out these salient features. He selects his themes with an astonishing rapidity, almost as quickly as a photographer. I have seen him compose a picture like Fig. 2 or 8 within an hour.

The figures in all his pictures are well placed. They fill the space. Of course, we miss the color in the reproductions and it is one of their principal charms; but the values, despite being monotone in tendency, are so rich in contrast throughout the entire arrangement that they are worthy of the most careful scrutiny of everybody interested in portraiture. "Edith," Fig. 1, is quite an unusual pose. As in most of his compositions the pyramidal shape prevails, but it is used in a novel and not in the conventional manner of Fig. 3. This is produced by using a three-quarter view of the bust with a full face as in Fig. 2, by a clever use of the arm as in Fig. 7, or a slight shift of the body (depicted almost full face) with a profile as in Fig. 1. It is the shift of the body and the manipulation of arms and hands which are most conducive to a variety of attitudes. Fig. 8 would be absolutely ordinary without the introduction of the folded hands on the top of the chair.

Hands as every portraitist knows are most difficult to place, and Rosenthal handles them exceedingly well. They are different in nearly every picture. Only in one instance he failed. Fig. 4 shows a very careless treatment in that respect, and the picture just needed a decided shape at the lower margin. It would have improved the entire composition. The lower part is entirely too monotonous. In the other pictures of the series, however, and notably so in Figs. 1, 6, 7, and 8, the hands are delineated in a masterly fashion. It is always well to show not merely the wrist but the entire forearm in a portrait. It affords a finer opportunity for the display of lines (viz. "Edith" and "Margaret"), and even so when the arms are gloved as in "Phyllis" and "Winifred."

Contrast is another quality of Rosenthal's work. "Agnes," Fig. 2, is an excellent example. Notice the clever placing of the three white shapes—the flower in the hat, the collar, and cuff. They are almost pure white without any graditions. They dominate the whole picture and yet do not detract from the face. One white shape alone (any one of the three) would have

thrown the entire composition out of balance. It would not have been much better with two; it needed three. The artist knew what he was about. It was a bold attempt, but he succeeded in producing a startling effect. Also the dark planes are well handled, and the dark angular silhouette is very effective against the gray background. The same beauty of contrast, although not of equal strength and decision but rather as a subtler and subdued order, can be studied in Figs. 5 and 8.

At the same time there is always a certain tone feeling. Not a single note "jumps out." They are all "in" the picture. It is so when they are seen in color, but it is equally pronounced in the black and white reproductions, and this is no doubt due to Rosenthal's training to see objects in black and white as the Old Masters did. Tone is not sacrificed to the distinct representation of form and detail, but all form and detail are subordinated to the prevailing tone. This is what the painter calls "enveloped." By this he means that the figure is properly shown in space. A figure represented in a picture should make the same impression of distance as when it is seen in reality. This the artist accomplished in most instances. A few of them look a trifle "flat" but the majority show a good atmospheric effect.

Rosenthal shows great discretion in his backgrounds. They are nearly all plain backgrounds, but so subtle in their gradations and so harmoniously keyed up (or down) to the dominating planes of the figures that they sink imperceptibly as it were into space. His contours are clear, even very precise, but never sharp, and this helps the illusion. Every portraitist could learn something from these backgrounds—particularly a minor but most telling detail, that the tone of the backgrounds grows just a little darker toward the margin.

It seems that Rosenthal has "arrived" (to use a French expression) in this series. They are convincing. They are truly artistic, and the facial expression is in no way neglected. The pictures do not merely represent pretty women but distinct types. Whether this is sufficient for portraiture is another question. There is no doubt, however, that Rosenthal possesses the faculty of seizing character. His male portraits of Dr. John Yerks and Geo. W. Kochersperger, Figs. 9 and 10, prove that they are delicious in their directness and frankness of expression. The wonderful modeling of the faces, the fluency of the touch, and virile manipulation of a few dark accents show that the artist really took a delight in painting these two portraits. If he can succeed in his future to combine the two main factors of portraiture, an animated expression of likeness with pictorial or rather picturesque handling, Rosenthal will have climbed to the position that he hopes to occupy.

There are few artists in America today who work so hard to accomplish this aim as Albert Rosenthal. He is every day at it, painting for eight or ten hours, and his progress from year to year is astonishing. His unerring accuracy of vision, his artistic temperament, his energy and enthusiasm, and his skill as an actual technician will give him at an early date the enviable position of being one of our foremost American portrait painters. There are but few, and there is plenty of room for sincere and able artists like Albert Rosenthal.

Hypo.—A useful and cheap chemical which we pretend to wash out of plates and papers and for economy use till exhausted. What comes out in the wash—sometimes.

PORTRAITS OF WOMEN

THE first portrait made by photography was a portrait of a woman. Ninety per cent. of the work done by the professional photographer comprises pictures of women and children. This proportion has been maintained since photography began, and will doubtless persist until the end. If women and children were photographed as rarely as men are, three-quarters of those engaged in photographic portraiture as a profession would have to seek some other means of livelihood.

Taking the facts above stated as indisputable, one would naturally suppose that the photographer would devote particular study to the possibilities in women as subjects for his art; that the disproportionate amount of practice expended on women would make the photographer preëminently skilful in this special field and that he would give considerable attention to women from a business standpoint.

Does he? Indirectly, yes; intelligently and persistently, no. The average photographer accepts the facts as stated, and lets them go at that. He knows that the majority of his customers will naturally be women, because of human nature. Women are naturally graceful, and, of themselves, strive after pictorial effects; hence, they are easier to handle, and make more pleasing pictures than men. The photographer naturally desires to please his customers, and for his women customers as naturally does his best as far as his abilities go. But I hold that women deserve more than this. I am just as certain that women will appreciate and pay for all the consideration the photographer will give them. As a class they are sorely neglected by photographers.

Let us take New York, for example. One cannot pass through the city's streets day by day without noting the preponderance of beautiful women. But look through the display frames of the city's studios, and you will willingly agree with the ungallant San Franciscan when he says: "Your New York woman is 'nothing extra' in the way of beauty." I have observed this for years. Our women are beautiful beyond question. Our photographs of women are utterly inadequate. You can wander up Broadway or Fifth Avenue and hardly see a photograph of a woman worthy of a passing glance.

What are the faults? Bad composition and lack of grace chiefly. Beauty is always interesting. These portraits fail to interest because they lack the attraction of beauty. The average photographer does not yet seem to have learned how to pose a woman so as to express the grace and beauty —the grace of manner and movement, the beauty of form and draperies— with which nature and art have endowed her. And there is usually even less skill seen in the arrangement of the figure and its accessories within the picture space—the composition of the picture.

With women the three-quarter or full-figure pose is generally most desirable, but considering the abundance of opportunity we do not see that profusion of figure portraits of women which one would naturally expect. And much more rarely, indeed, do we see a pose which has not some obvious and easily avoided defect. Women have more natural grace than men and less awkwardness of carriage; their draperies, too, offer a more pleasing variety of lines than is possible with masculine dress. Moreover, it

is much easier to give a woman something to do which will supply motive and interest in a portrait, beside enabling one to secure grace of action or harmony in arrangement.

The most common fault in portraits of women is the too obvious pose. This is generally expressed in a nervous or conscious strain after attitude. The first element of success, therefore, must be flexibility, the relaxation natural to the figure when it is unconsciously easy. Where this nervousness is observed a good plan is to occupy the subject with some phase of action natural to a woman, as, for instance, the arranging of flowers, the "picking up" of the skirt, the opening of a parasol, and the like. In this way by seizing an opportune moment one may secure animation and grace of line in the figure as well as naturalness of expression. The moment of arrested motion may also be used to secure an animated and characteristic pose, as when a woman turns to greet a friend entering her room, or inclines the figure to take up something from a table, to arrange a lock of hair at the side of the head, etc. In all these details wherein we have pleasure in daily life a portrait may be had which will possess an easier grace than any formal pose.

It will often happen, however, that a more or less formal pose is desirable to exhibit the figure or the costume. In such cases the pose depends upon the peculiar charm or beauty of these features. It may be that accessories will be needed to help out the lines, but these must be used skilfully because of their influence upon the proportion of the figure. For instance, in a standing pose of a woman under the average height, a low-backed chair of slight width and with long lines will add height and grace. The softly outlined, flowing folds of a curtain behind the figure, barely more than suggested, will also give the desirable appearance of height, or the subject may be made to stand (if it is accomplished without loss of ease) upon a very low foot stool or a book placed upon the floor. This latter device is generally adopted where the costume has a train or is of unusual length. The very common habit of permitting a space of several inches between the bottom of the front of the dress and the floor in standing poses should be avoided; it depends very largely upon the way in which the subject stands. Where the skirt itself is short a sitting pose should be chosen. The standing pose is undoubtedly the best with most women for showing the figure and costume to the best advantage. Stiffness, when it is apparent, may be obviated by giving the figure a slight turn from or toward the light.

The profile of the figure, with the head turned to the three-quarter view, generally gives a graceful pose; in handling a plump figure in this manner, however, vertical lines near to the subject should be avoided as accentuating the curves of the figure in a disagreeable way. If the subject shows a costume with unusual fulness at the shoulders or bust, it is well, where possible, to make use of the hat to give proportion to the head, which might otherwise appear insignificant. Similarly, where the hat gives the head undue proportion, the sitter should be persuaded to remove it. The principal lines of the pose should always be disposed so as to lead the eye around the figure, with the head as the chief point of interest. Abrupt angles, I need hardly say, should be guarded against, and the "line of grace" adopted for the general direction of the predominant lines through the figure. The forms

of composition indicated are, of course, the pyramid or the use of the "decorative line." When the pyramidal form is used care must be exercised to see that the centre of gravity falls within the pyramid or the figure will be unbalanced and appear as if ready to fall over. The alternative method is advantageous when the figure is in any other than an erect position; in its use a sense of balance is the essential thing to be secured after grace.

In both standing and sitting poses the carriage of the head has great influence upon the success or failure of the portrait, altering its outlines in a remarkable way both as regards proportion and general effect. The lines formed by the dress when the subject is seated offer considerable difficulty in their harmonious arrangement, having a tendency to fall into triangles the apex of which is indicated by the knees. This difficulty may be obviated to some extent by selecting a chair of the right height for the particular subject, *i. e.*, one which is neither too high nor too low, so that the knees are not elevated. The sitter should also be seated well forward, so that the legs are bent at an acute rather than a right angle; in this way the folds of the skirt will fall more freely. The practice of drawing the dress tightly about the lower part of the body, showing the form of the hips and figure, cannot be too harshly condemned. In like manner, a standing pose is often seen in which the hands are joined over the lower part of the abdomen, this latter catching the light and so being made more prominent because it is framed by the arms. A similar fault is that of seating a woman in *décolleté* dress too low, or inclining the body too far forward, so that the shoulders and bust are displayed in a way bordering upon vulgarity.

The most troublesome feature of the figure pose, however, is the disposition of the hands, about which women are sensitive to a degree. In consequence of this we find in looking over a number of portraits of women that the hands are most often conspicuous by their absence. Sometimes they are placed behind the back, or hidden under the pages of a book, or fan, or among a few flowers; at other times they are hidden in folds of the skirt, or by a cape. When shown, the general complaint is that they are too large, a notion which has some foundation in truth, but also largely the result of the invariable practice among painters to represent the hands smaller than they are in life. There are various ways of meeting the difficulty, the best of which is to make one's self thoroughly familiar with the hand, its anatomy, its expressiveness, its varieties of arrangement and most graceful positions. Very much depends upon the lens and the distance of the hands from the point or plane of the principal focus. If two photographs of a hand are made, the one with an eight-inch (focal length) and the other with an eighteen-inch lens, the difference in result will explain the influence of the lens in a startling way. That the hands increase in apparent size and awkwardness of proportion according to their nearness to the lens is a matter of common knowledge which does not receive the attention it deserves.

In the treatment of the hands the first rule should be to avoid showing their full width, or, if they must be so placed, to see that they are so lighted or modelled by shadow that their apparent width is lessened. Sometimes one hand may be completely in half shadow with advantage. When a head, for instance, is posed leaning upon one hand, the effect

is much better if the hand be against the dark side of the face and thrown into shadow by the head; and when the hands are not placed close together, so as to make a group in themselves, it would, I think, always be better to subdue one of them somewhat by shadow.

As we have in hands a repetition of the same form several times in the fingers, we must endeavor to vary them somewhat. When the fingers are extended straight out and held close together, the effect is stiff; and if they be kept straight and spread equally, the result is a sprawled, awkward look. When the hand is open, three fingers pose together better than two, and some of the fingers should be drawn up, but not all equally. A completely doubled-up hand is not good—it is too like a fist; but a pose in the position of holding a pen or pencil, as when writing or drawing, is one which looks well from many points of view. A very bad arrangement of the hand is when it is held flat and the fingers doubled up to the second joint; the squareness of the form and the impression of the ends of the fingers being cut off are very unpleasant. Again, the hand very much doubled up, but the index finger fully extended, is an arrangement which looks exceedingly awkward from several points of view.

A graceful pose is to bring the thumb and second finger slightly together, with the remaining fingers slightly raised. In this position turn the hand in any way you choose, and you will find agreeable lines, which will need but little correction to appear pleasing. The wrists as well as the arms will play important roles in the composition of lines; but can be mastered with very little observation.

When the sitter is a person of education or refinement it will often be noticed that the hands naturally assume a graceful position. Where this is observed the natural arrangement should be accepted. It is always the most characteristic when unconcerned, and drawing the attention of the subject to the hands will almost invariably result in awkwardness.

In small groups of two or three people—intimate friends or members of a family—a pleasing arrangement is not so difficult. They may be interested in the reading of a letter or book, or engaged in conversation or occupied with the antics of a child. Small groups of young men or young women are also easy to manage, because they may be occupied in something of common interest. When the lower parts of the figures present difficulty, the seating of the figures at a table will obviate the difficulty. In such pictures the form of the composition may be pyramidal, or we may simply seek a well-balanced arrangement and variety of line in the position of the heads or in the figures.

Beware of confusion of interest or too much complexity. The figures should not be too close together, nor the combination too large for the space it occupies, or the effect will be unpleasant. Sometimes the horizontal form suggests itself, as in a group of three children, of which the half figures only are shown. In such a case the figures can be made to overlap each other, especially with children, but great care is needed here to secure a graceful outline of the heads. Speaking generally, a convex outline is preferable in all groups as giving solidarity, boldness, and grace. This line need not depend upon the figures, but may be secured by draperies or accessories, which, however, are not

to be used unless directly helpful. Angles, and especially right angles and parallel lines of heads, are to be avoided, since they disturb the eye and prevent it from uniting the various parts of the group, which is essential to its unity. The heads are always the chief points of interest, and their relative position is the most important factor in the success of the group. They should not be so placed as to form any regular or geometrical pattern, nor placed directly above each other. Very little differences of position are important here and will give pleasing variety. The lines connecting the figures composing a group should be as simple and as graceful as possible. Thus a harsh, horizontal line between two figures will give the appearance of separation rather than of unity. Repetition of the same line or curve will sometimes be useful to convey a sense of unity obtainable in no other way Converging lines should be avoided, unless there is some point of special interest at their convergence, as they will concentrate interest there.

There should always be a sinuous line connecting the figures so that none may be isolated and the effect of unity be lost. Similarly whenever it is possible to express action in a group, this opportunity to supply interest to the composition should not be passed unheeded. In group composition there is abundant room of variety in pose and effect, the common purpose giving completeness of interest. Thus two or three young women may be arranged as if discussing a design in embroidery, or chatting over a friendly cup of tea. A "property piano" is very useful where such small groups of women are frequent and presents opportunities for many effective compositions.

PRACTICAL PHOTOGRAVURE

Negatives should possess a good scale of gradation and be fairly strong, though not hard, with plenty of detail.

Transparencies may be made by any process, but the best are carbon transparencies, made with transparency tissue. Should be as thin as possible consistently with preservation of scale of gradation. Provided detail is present in high lights, any increase in density in the transparency is not only unnecessary, but undesirable. If too weak, a carbon positive can with great advantage be stained with permanganate of potash dye in solution.

Carbon Results. Use Autogravure No. 3 (Autotype) or Illingworth's Photogravure Tissue.

Sensitizing Solution for Carbon Tissue. Potassium bichromate, 1 oz.; water, 20 to 30 oz.; liquor ammonia (0.880), 60 minims. Immerse for three minutes. A longer immersion in a weak solution is practically equal to a short one in a stronger bath. If enclosed arc is used for printing and vigorous results are required, 60 to 120 grains bichromate instead of 1 oz. The tissue should always be dried, squeegeed on a chalked glass kept for the purpose in aired cupboard, temp. 65° to 75° F.

Copper Plate, to Clean. Rub with absorbent cotton charged with solution of caustic potash, strength unimportant. Rinse off the potash. Apply a fresh piece of absorbent cotton moistened with sulphuric acid (strength 1 in 20 of water). The potash is to remove the grease, the acid to remove the tarnish. Rinse, and with another pad of absorbent cotton rub with a paste of washed whiting moistened with 3 per

cent. solution of ammonia. This should be continued until, on rinsing the plate, water will run off evenly, and not stand in drops or streaks on the surface. Rinse plate with hot water and dry with a clean linen cloth kept for the purpose.

Gelatine Coating to Prevent "Devils." Nelson's No. 1 gelatine, 120 gr.; bichromate of potash, 6 gr.; water, 9 oz. Filter carefully and apply warm to the warm copper plate. Dry, and expose to sunlight until insoluble. Re-coat, draining from the opposite corner to the one previously drained, and again expose to sunlight. The printed carbon resist is transferred to plates thus prepared.

Dust Ground. Finely powdered resin, or gum copal, is used by principal trade workers in France. Fine asphaltum powder is recommended by both Thomas Huson and Herbert Denison.

Laying the Ground. Use a dusting box charged with finely powdered asphaltum. Stir up the dust with fan and wait till heavier particles settle down. The longer the wait before putting plate in, the finer will be the ground. For a coarse grain wait twenty seconds. After putting plate in, let it remain one and a half to five minutes according to grain required. It may be necessary to withdraw plate and shake up again two or three times to get a very fine ground. Many of the best workers use finely powdered resin for the ground, but it needs more skill and practice to do it right.

Setting the Grain. Grip the plate in a hand vice, protecting it from the jaws with a slip of cardboard bent round the edge. Hold over a gas stove until color approaches a steel blue appearance.

Liquid Ground. Asphaltum, common resin, and certain other gums are applied (in solution in benzole or ether) by means of a scent-spray or an air-brush. Except where discriminating grain is needed, these seem to have no advantage over the dust ground.

Reticulated Ground. Resin, in pure, water-free alcohol, saturated solution (a few days to dissolve, with frequent shaking). For use:—Alcohol, 2 oz.: resin solution, ½ oz. Flow over levelled plate and allow to dry. Coarser reticulations, more resin; finer, more alcohol.

Mounting and Developing the Resist. Place grained copper plate in a dish of clean filtered water at a temperature of about 70° F. Immerse tissue in the water face up. Remove air bells from face with clean camel-hair brush, then turn over the tissue and remove air bells from back. As soon as tissue is limp, raise the plate and let tissue come into contact with it, lifting both out together. Lay on a flat surface and apply squeegee. Remove superfluous moisture with blotting-paper and set aside in horizonal position for ten mintutes. Deveolp with water at 100° F. If over-exposed, raise to 120° F. After development is complete, rinse in cold water and set aside to dry. If required for etching at once, flow with equal parts and water. Drying can be assisted with whirler.

Varnish for Edges. Brunswick black is most convenient. Rule lines around the plate with a ruling pen, then coat the rest of the edges with brush. *Or*, bitumen, 1 oz.; benzole, 6 oz.; turpentine, 3 oz.

Varnish for Back of Plate. As above.

Etching Bath for Talbot-Klic Process. Three to six different solutions of iron perchloride are used, beginning with the strongest, the general strengths being 40°, 36°, 33°, and 30° Beaumé. After placing in the strongest bath, the plate is watched to see whether there is any etching effect on the thinest portions of the resist. If after some time no effect is seen, remove to the

next bath. In each bath the etch (indicated by discoloring of the copper) is watched until it ceases to spread further, then the plate is transferred to the next weaker, which will penetrate some thicker portions of the resist. The etching must be stopped just before the very highest lights of the picture are attacked.

Stock Etching Bath, to make. Take 7 lb. lump perchloride of iron, add 60 oz. of water, and heat until dissolved. To neutralize, take 10 oz. of stock solution, and drop in strong ammonia 0.880, stirring rapidly, until it is quite thick, then add the this to stock solution and boil. Cool, and allow to stand for twenty-four hours. Dilute with water until the proper density is shown by the hydrometer. The densities vary with the nature of the work; a useful general series is 40°, 36°, 33°, and 30° Beaumé. Heat before use to about 80° F.

Time of Etching varies with every plate, but an actual, timed experience of Herbert Denison will give a rough guide. Solution 45° Beaumé — no effect; 43°—two minutes; 40°—four minutes; 38°—four minutes; 36°—three minutes; 33° — two minutes. Total, fifteen minutes. The first bath that attacks the copper should not act more than two minutes.

Single Etching Bath. Use one etching bath of perchloride of iron of exactly the strength 38° Beaumé at a temperature of 74° to 75° F.; taking 1 dr. to every square inch of the surface. — Thomas Huson.

Etching Ground to be applied to the face of the plate to protect it while titles or other line work are being etched. — The etch ground is spread over the whole plate, and the lettering, etc., is scratched through the ground to the copper, the title being etched with perchloride of iron as used for etching the photogravure itself. White wax, 400 gr.; gum mastic, 200 gr.; asphaltum, 200 gr. Melt together and pour them into oil of lavender, 1½ oz. Mix well, pour into wide mouthed glass-stoppered bottles, and when set pour a little oil of lavender on the top to prevent drying.

After Etching remove the resist with 5 per cent. solution of caustic potash.

To Remove Grain, use mixture of benzole and turpentine.

The Steel Facing Solution. Protosulphate of iron, 1 oz.; double sulphate of iron and ammonia, 1 oz,; chloride of ammonium, 2 oz.; water, 40 oz. Dissolve and filter.

To Preserve Steel-Faced Plates, heat well and rub with beeswax until it melts and flows over whole plate.

Ink for Photogravure. Frankfort black 4 oz; brown red, 1 oz. Mix with medium oil, and reduce when using with weak oil to suit work.

ARRANGEMENT OF THE GROUP

BY JAS. WATT

THE further we advance in what may be justly termed Artistic Photography, the more we emancipate ourselves from that monotony of subject which has overruled the photographic representations of the last twenty years, the more pressing become the questions as to how, after the difficulties of the single picture have been successfully dealt with, other difficulties may be similarly overcome. One of the most difficult, perhaps the most difficult of all tasks undertaken by the photographer, is the

efficient representation of several persons in one picture—the group. The group must consist of a number of single pictures together, but may not be broken up into isolated pictures. The space, looked at from a distance and as a whole, must appear filled with lines and forms expressing life and action as well as a certain amount of design. However simple these requirements may sound, they demand of the photographer artistic sympathy, much study, and patience.

He must be acquainted with the laws regarding the structure of a picture; he must know the principles (akin to those of pictorial art) of composition; he must be able to separate the important from the unimportant, and to combine, suppress, or tone down accessories.

It seems, therefore, not out of place to write about these requirements, as only on the sound basis of knowledge and capability can art in photography be developed and protected from the so-called "works of art" which have so little to do with art.

Many of our up-to-date practising photographers do not possess energy, ambition, or love of their calling sufficient for self education, and in thinking over the decline of the photographic industry we are forced to come to the conclusion that a considerable part of the blame is due to many professionals lacking knowledge and ability. It has been recently remarked that the beginnings of photographic portraiture indicated progression along similar lines to those now worked upon by the great bulk of photographers.

Originally, photography was practised by artists and by real art lovers, and we have pictures from among those "beginnings" which might well serve us as examples. This opinion is shared by many competent judges. When we consider how vastly superior are photographic materials of the present day to those of forty years ago, we think it would be well to investigate the reason of this retrogression and also find out the differences between the early photographers and those of today. Any connoisseur would tell us that the difference lies in the conception of the subject. We might reply: "Other times, other views," but nature remains the same. While from the earlier portraits real flesh-and-blood people look out at us, the photographs we possess nowadays seem better fitted to adorn the pages of a fashion journal. The human countenance, once the point of interest, must give way to the fashionable or *chic* gown, the dainty hat, the immaculately dressed curls, in fact, to the art of the modiste and of the hairdresser. We would not wish, of course, to banish all that is modern—fresh methods of expressing beauty must ever be given a place of their own—but the fact remains that the point of view of most photographers is a very narrow one, and in only exceptional cases are we striving to repair the ravages of the photographic "man of business."

Formerly group photographs were taken by painters, men of artistic taste. How had they the advantage over us, seeing how far behind us they were in technique? They possessed artistic feeling, which we lack. They knew of nature from their own studies, whereas we know nature only through more or less bad copies. If we wish to overtake them we must, at least, use good instead of bad copies, and, above all things, we must return to nature.

With regard to the good copies, we can earnestly recommend our readers to obtain some of the beautiful reproductions after pictures by the

old masters. They are comparatively very cheap. It is not enough, of course, for these pictures to be casually glanced over and then placed in an album. Their value may not be appreciated until the master's work be pondered over and studied carefully for perhaps a year. Let the student hang these, in simple frames, upon his studio wall; let him constantly look at and compare them (however useless this may at first appear) with his own work; and in time he will come to recognize a few of their wonderful qualities, and at the same time to confess that in order to compose *pictures* in the stricter sense of the word he will have to set about his work in a very different manner.

Of course, not even the most skilful photographer could ever hope to produce a picture equalling a group of Franz Hals in composition, truth to life, or interest; but it is surely unnecessary to produce those groups so constantly met with of persons resembling wax figures in their pose, and with the light and shade perfectly evenly distributed.

When we speak of the masses of light and shade, balance and unity, contrast and harmony of a landscape, we must remember that the functions of these must never be omitted in the arrangement of a group of figures.

The arrangement of form, line, and space can be manifold, but must always aim at a self-contained, pictorial appearance. It is just as dangerous to "stretch out" a group as it is to select a monotonous background. Let the figures be posed as close together as possible without crowding, taking care that the principal person be the centre of interest pictorially, and let the tones emphasize the important points at the cost of the unimportant ones.

An old writer has the following prescription for the composition of a group: "Give the first place unto the king, the next unto his attendants or other persons of note; should there be present those of lesser worth, place them without more ado in the shadow." This advice must not, of course, be literally followed, "those of lesser worth" being liable to take offence if treated merely as so much background; but the idea is right in principle. Figures placed in the shadow need not be on that account unrecognizable, and in following the above advice the difficulty of a "restless" appearance in the picture is obviated.

Straight, hard lines should be avoided as much as sharp corners, regular, repeating shapes, and parallel figures and actions.

A lifelike photograph should seldom represent a symmetrical appearance, for only in rare instances do these occur in nature.

A modern artist who painted a Daniel in the lion's den with Daniel standing in the middle with a couple of lions symmetrically arranged to the right and left of him would make himself ridiculous. An independent picture, aiming not at decorative space filling, but at a faithful copy of nature, could only represent the lions in different attitudes, as they would naturally have appeared. This holds good for all photographic grouping, which ought to represent nothing but nature.

Let us consider another popular method of photography than which nothing could be more objectionable.

In having to do with pictures of a very large size (we have recently seen a "Commemoration Day" and an "Alumni Union") "cutting out" and "pasting on" are frequently resorted to.

After a hasty sketch of the general arrangement the persons represented,

as well as the accessories and the background, are photographed separately in a given position, size, and light, and the plates are enlarged and printed separately.

Then begins the work of the retoucher. He laboriously cuts out the picture with knife and scissors and pastes it on to the ground according to his sketch. The edge of the photograph will then be erased, corrected, or completed with pencil and brush and united as far as possible to the ground. Afterward, when the picture is framed and glazed, the deluded public will either not observe the cutting-out business, or in observing will admire the dexterity and neatness with which it is carried out.

In the reduced photograph the work of scissors and brush is less obvious, but the picture possesses even less clarity and interest. The price of such a photograph must be very high, otherwise it would not pay to do the work, and the method is pursued in every branch of modern photography.

Many a reader may say, "Why disparage this method? Have we not for years attained good results, earned any amount of money, and satisfied our public with it?" We answer by describing the effect given by one of these same productions, which came, by the way, from one of the best studios.

In spite of every effort made by the photographer the "cutting out" and "pasting on" was sufficiently obvious to even an unpractised eye, any depth of tone was lacking, and the perspective of the painted background was wholly false, as the figures in the foreground were as clear and sharply defined as those behind, besides which, one beheld retouched boots and drapery, forced high lights, etc., and yet the whole tone was gray and of an equal value all over.

Could not even this method be used with better effect? Yes, with regard to certain points, not with regard to all. Depth, perspective, and a natural effect must ever be lacking.

Money may be made, and a not too exacting and inartistic public may be pleased with the results of such a method, but a *good* photograph will never be attained by it.

It seems very necessary to do something to combat the one-sidedness and the limited range of treatment in present-day photography, and as there is no means of learning, save by personal experience, we should use every available means of adding to our store. One of these means, demanding only diligence and a love of the art, is the hand camera. The study of typical or accidental appearances in nature by means of the hand camera is of the greatest importance both for groups and for single pictures. But how many photographers set to work in this manner? Most of them never bring their apparatus out of the studio; many of them look upon "snap-shotting" only as an amusement for amateurs. But is not the progress of many amateurs a proof that there are snap-shots and snap-shots, that instantaneous exposures can be made in an artistic spirit and can be of immense educational value? Thousands of opportunities are daily offered to the photographer of making studies of a charming pose, a quick, life-like action, and when he not only "snaps" but takes the opportunity of discriminating between the accidental and the characteristic, when he exerts himself to form of the scene a picturesque whole, and, finally, if he gives himself trouble over the careful finishing of the picture, even his studio work will derive benefit from the habit. Not only his technical powers, but also his powers of imagina-

tion will be strengthened, and he will find it easier to divide the natural from the unnatural. He will also keep further away from the set pose, which is always a forced and stiff arrangement.

Let us now run over the leading principles of group-taking. After receiving a commission to take a group find out first the number and character of persons. In many cases the studio may not afford sufficient accommodation, but the question *where* the exposure is to be made being of the greatest importance, the artist should make himself accurately acquainted with the locality. Let him carefully note the light and shade and the background, which will probably require altering. Then let him make a hasty sketch of the arrangement, which, however poor in execution, will be of the greatest service to him. Lines leading upward and outward should be looked for as giving life and action. After making this sketch pose the persons and strive to let them forget that they are about to be photographed (this will present some difficulty) and to look as if there were some meaning in their being thus assembled.

Then comes the critical moment of exposure, only to be rightly decided upon by the artistically educated photographer. It seems at first an impossibility, but even here practice will make perfect.

There are several ways of attaining the end, but the end remains always the same, the lifelike and harmonious picture. Any one can work according to the examples showered upon us in the illustrated press, and it is partly the lack of development of artistic and imaginative power which is at the bottom of the decline of the photographic industry. The warehouse photographers have the same furniture, the same studios, the same materials as the professional photographer has; why should the productions of the one be so much worse than the productions of the other, as they both pose according to given examples?

Year in, year out, we see hundreds of pictures, and hardly any of them is better than those of the warehouses. Let us not shrink from earnestly seeking the reason for this evil, and it must assuredly be found.—*Das Atelier des Photographen.*

PLATINUM GUM PROCESS

BY JESSE T. BANFIELD

So much has been written about the theory of the gum-bichromate process that I will not go into that, but, rather, limit myself to the formula and manipulation of the print, taking you through the process in the order of its working.

The first thing to be considered is the kind of picture to which it is best adapted. Generally speaking, those with big bold outlines and masses are the best suited; but, again, it may be found that delicate detail will work out beautifully.

As to whether the result justifies the time and patience required in producing it, I will say yes and no. Yes, if you do it for the sheer love of doing things worth while and start with the idea of making very unusual photographs. If you start with this idea in mind you will have a great deal of pleasure with this process. No, if you look at it only commercially.

Putting it plainly, if you like mere records of places and things you will never find enjoyment in anything but a straight print process.

A good platinum print is the first thing necessary. It should be just a trifle lighter than a straight platinum print.

Eastman's Etching Black is an ideal paper; it is coated on a cream stock, which gives the finished prints a very beautiful, warm tone. After several attempts with Angelo I have given that paper up as impossible. Should your negative be flat, you can increase the contrast by adding one-eighth ounce of bichromate of potash to forty ounces of platinum developer.

You must keep the surface of the platinum print clean and not allow it to come in contact with anything greasy. Keep your fingers off the prints during the entire working of the print.

The acid *must* be entirely eliminated, as the presence of acid means sure failure. I have found it convenient to use 8x10 sheets of paper for 6½x8½ prints and 10x12 for 8x10 prints, as this gives an extra margin, which helps materially in coating and handling. After the print has been thoroughly washed and dried it is ready for coating with the following solution: Saturated solution of bichromate of potash or ammonia, one ounce; best white gum arabic, one-eighth ounce; fifteen-cent tube of moist lampblack, one-half tube.

This pigment should be spread on a clean piece of glass and allowed to dry thoroughly. If it must be dried in a hurry, use a magnifying glass and burn it dry with the sun's rays. You can mix this formula in the evening, by morning it will be dissolved, and will require very little work with the mortar and pestle. Strain through three or four thicknesses of cheesecloth.

Coating

Pin the platinum print down at the corners on a smooth surface and apply the bichromate solution with a one or two-inch flat camel's hair flowing brush. This must be done carefully and quickly. A stroke from one end of the paper and back for each width of the brush should be all that is done. If gone over too many times the delicate surface of a platinum print will rub. In this case the pigment will fail to come off evenly.

When coated, the print can either be dried over a gas stove or in other artificial heat, or hung up and allowed to dry slowly. The print can be handled in an ordinarily lighted room without danger of fog, but should not be exposed to too much strong light.

When thoroughly dry, the print is ready for the second printing. Here you must register the print on the negative, and some care must be taken to register them exactly. Sometimes, however, it is impossible to do this, as the platinum print stretches out of shape. In this case, register in the most important part of the picture and let the rest go. In some instances this rather improves the picture.

By using an incandescent light under the printing frame, it will be found quite easy to register, as the lines on the plate and image on the platinum print are seen quite clearly.

Time of Printing

About one-half the time required to make a good solio print. When printed, put in a tray of clear water, face down, and be sure there are no airbells underneath. Allow to soak about twenty minutes and proceed to develop.

There are several ways of develop-

ing, but the one I have found most satisfactory is to attach a small rubber hose to a faucet and develop with a spray. This gives you quite a degree of control. Should the pigment fail to come off after twenty minutes' soaking in cold water, heat the water. At times I have found it necessary to use almost boiling water. This indicates over printing. Should the pigment come off too readily, it is under printed. The developing is the most interesting part of the process, and must be done slowly.

First of all, know what you want to do and follow as closely as you can that idea. When developed, hang up to dry. After it is thoroughly dry you can either trim and mount without varnish or varnish with Soehnee No. 3, which gives them the appearance of a wet print. Several coats of varnish will be necessary to give the desired gloss.

A summary of the process, step by step, is as follows: A good platinum print; keep surface of print free from finger-marks or anything greasy; wash print entirely free from acid, acid always means failure; dry the pigment thoroughly before mixing; never thin solution with water, use more gum and bichromate solution; in coating, go over print with as few strokes as possible; too much pigment makes a greasy print; too little, a weak, fine-grained one; too much time in printing, the pigment comes off very slowly; too little it comes off readily; time of printing, one-half time of solio; never allow the bichromate solution to get on the back of the print.

The bichromate can be secured at any photographic supply house; the brushes, moist lampblack and varnish, at any artists' material store; the gum arabic, at any first-class drugstore. Be sure you get the best white gum arabic. The formula given will work very nicely on straight gum prints and the same general rules will apply in coating, printing, and developing.—*California Camera Club Annual.*

THE CAMERA AND THE CRIMINAL

SCIENCE in these days is hard after the criminal. Clever indeed must be the wrongdoer who escapes her toils. In the very act of covering up his tracks he makes new ones, which are brought to light in the relentless laboratory. And not only do scientific methods go far toward rendering inevitable the detection of crime and of the criminal, but they make more and more unlikely the conviction of the innocent.

Some have urged that it is unwise to let it be known how the police track down crime. We are of exactly the contrary opinion. Let the intending criminal have but a glimpse of the scientific armory of the disposal of the modern detective officer, and if that revelation does not act as a deterrent nothing else will.

Photography is gaining an increasingly brilliant place in criminal investigation. Its impartial aid is continually being called upon for important and at times essential evidence. "The sensitized plate," says Professor Vogel, "is the new retina of the man of science." With the camera the personal equation can scarcely count—some would say

that it cannot count at all—and, unlike human witnesses, it can never be the victim of a subjective as distinct from an objective impression.

The Camera as a Recorder of Details

Its first function is merely as the humdrum recorder of the circumstances and locality of a crime or a disaster. It assists in the memorizing of details and helps the coroner or the judge and jury to come to a more intelligent decision. Usually such photographs are taken from various points of view, and are accompanied by all necessary descriptions including the day and hour of their taking and all technical data.

Any police officer possessed of a slight knowledge of amateur photography is capable of this much, and there is no need to involve the professional. At times also the chance photograph made by an outside person has its value for the authorities. The snapshot of a riot has on more than one occasion assisted the police to make important arrests.

Between scientific photography and such ordinary routine work as record making at the scene of a crime, there is no clear line of demarcation. Nothing, indeed, is ordinary or important in the sharp eyes of Sherlock Holmes. Even when every detail is apparently, as clear as daylight, the camera picture may throw into starting relief some new fact which alters the situation. It is the experience of many people that the contemplation of an inverted view of a number of objects in a mirror may discover something which had altogether escaped the direct observation. Similarly with the photograph, the new aspect and color, the reduction in size, the fact that the thing is seen on the flat, may supply a key to a problem, and possibly clear up a burglary, or a case of arson, or a train wreck.

The Detection of Blood Stains

The photograph has the further value that appearances which themselves are only temporary can be permanently recorded. Among such appearances are a blood stain, a foot print, a finger impression. The photography of blood stains is not very satisfactory. The essential things are mixed up with so big a crowd of other detail that it may be necessary to make elucidatory sketches in order to bring home their meaning to the lay intelligence. It is important, however, to have a photograph showing the distribution of these markings before any chemical examination is made.

Not only will the camera show the visible blood-marks, but it will reveal the invisible ones as well. If an attempt has been made to obliterate them the photograph will give its undeniable evidence of the fact. A case is described in which a handkerchief, originally blood-stained, played a conspicious part. It had been washed so as to remove all visible traces A chemical examination in that case would have been unavailing, since there was no visual evidence as to whereabouts on the linen the stains might be situated. A photograph of the handkerchief, made through a dark-blue filter, revealed the place of the stains which were then cut out and chemically treated.

The fact that the camera can bring out latent evidence makes it a particularly valuable accessory. Many an important clue has been obtained owing to the fact that in a photograph reds are generally rendered more intense than under visual observation. Often a red mark which the eye has

failed to appreciate is reproduced, and this property is especially fortunate, from the point of view of the criminal investigator, because pressure upon any part of the human body causes a redness which persists for the photographic plate some time after it has ceased to be visible. Marks of strangulation invisible to the eye, but recorded photographically, have established the fact that a person found drowned has been thrown into the water after a struggle.

The photography of footprints is in much the same category as that of blood-stains, but in order to interpret the meaning of the footprints a large amount of specialized skill is necessary and it is not uncommon for detective officers to train themselves in the study of footprints by employing a method of instantaneous photography of the feet in the act of running or walking.

Recording Finger-prints

A whole science has gathered around the finger-print, although it is only some seven or eight years since finger-print evidence was first submitted in a murder trial in this country. All the world knows how the impression of the fingers is taken in printer's ink, recorded, and indexed, so that it may be compared afterward with the photograph of a finger-print in a criminal case. Such finger-print evidence by the Galton method is now regarded with greater favor than the complex Bertillon system, known as anthropometry, in which certain unchangeable dimensions of the body are measured.

Photograph for Identification Purposes

The mention of Bertillon, who is the head of the identification department of the Prefecture of Paris, calls to mind the man who, more than any other, has actively applied photographic methods in the detection of criminals. In his book, "La Photographic Judiciare," there is a good deal of discussion as to the best pose for identification purposes. The profile is useful, but each of us knows, in his own circle, that the profile is the aspect of our acquaintances with which we are least familiar. On the other hand, in the full face, the ears, which are always of great value as means of identification, are lost, and the nose is difficult to distinguish. A certain well-known preacher whose photograph appears in the print-shop windows, had always seemed to us to possess a nose of Greek type, but the other Sunday, placed so as to catch his side face, we found it to be the purest Roman—a veritable "nose of nice nobility," The best way out of the difficulty is a combination of the three-quarter face and the profile. Such a combination is secured at one exposure, according to the practice in this country, by placing a mirror so as to reflect the profile when the subject is in the three-quarter position. The rather fanciful suggestion has been put forward, we believe only by one of the popular magazines, that if you want to know what a man was like five years ago, and you possess a portrait taken ten years ago, you have only to superpose it upon his contemporary portrait and obtain a composite.

The Value of the Photomicrograph

Combined with the microscope, the camera renders wonderful aid in smoothing out a tangled web. In the case of certain poisons it is not possible for an expert to bring forward the results of his investigations in permanent and tangible form. Photography, therefore, is useful as a means of making instantaneous records which can

afterward be produced. Adulterations can be strikingly illustrated by the same means. Sausages adulterated with flour, for instance, with the starch grains stained blue with iodine, readily tell their tale, and the same is true of pepper adulterated with barley meal, cinnamon with sawdust and so on. In each case the photomicrograph brings home the indictment. Even fibres of paper, when photomicrographed and compared, have furnished the clue to a forgery.

The Photography of Documents

The photography of documents is a subject deserving an article to itself. Photography, using transmitted light, is the easiest method of discovering erasures or the employment of suspicious chemical products on paper. It is also claimed that it will reveal the nature of ink, but on the point more reliability is generally placed upon the chemical reaction. A certified copy of a document must be made by photography before anything is changed chemically, or destroyed or separated for the purpose of futher investigation. Writing done in invisible ink becomes readable, charred documents can be interpreted, fraudulent tampering with sealed letters brought to light. In suspected forgeries the two writings, the genuine and the supposedly forged, can be reduced to the same scale, and enlargement upon the same paper, thereby facilitating comparison, and making evident anything tremulous or labored in the suspected signature. Evidences of tracing, the chemical treatment of stamps to remove post marks, the proof of contact between two bodies, such as a stamp and a document, are among the proofs which photography in the hands of an expert may be expected to furnish. Even the invisible impression made on the sheet of paper below that on which something has been written with a pencil, has been made by the same means to yield up its secret.

A remarkable instance, somewhat in harmony with this last suggestion, is reported from a German public library. A copper engraving had been stolen, and, unfortunately, the character of the picture could not be remembered. By photographic means, however, the vanished picture was reconstructed from the impression it had left upon its tissue-paper cover. A blue filter was used, and the contrasts reinforced by the successive perforation of the positive and negative copies. The grease of the printer's ink had been partially absorbed by the tissue paper, imparting to the latter by oxidation a slightly yellow color quite invisible to the eye.

We remember how George Meredith said that cleverness was an attribute of the selecter lieutenants of Satan. However that may be, these gentry do not seem to possess a monopoly of it, and, skilful as many criminals are, they are outmatched at every point by the processes of scientific investigation which, like the mills of God, grind slowly but grind exceeding small. Among the devices with which society protects itself we are glad that the camera has made itself indispensable. —*Amateur Photography.*

The Best Way to Measure Chloride of Gold is to dissolve the contents of a 15-grain vial in seven and one-half ounces of water. This gives a solution which contains a grain of gold to every half ounce of water. When making up a solutiom in which gold is used take for each grain a half an ounce of the gold solution and decrease the amount of water called for in the same proportion; that is, if your formula says 8 oz. of water and 2 grains of gold, use 7 oz. of water and 1 oz. of the gold solution in making up the bath.

THE POSING, LIGHTING, AND ARRANGEMENT OF PORTRAITS*

Posing: Action

THE first heading upon the synopsis is the subject of posing, and the first subheading Action and Repose. Energetic sitters, especially men, should not be taken in relaxed attitudes. That sounds fairly dictatorial for a start, and I make it an opportunity for explaining that a use of the word "should" and similar dogmatic tricks in this lecture is merely one of expediency. It would mean a sinful waste of time for me to interlard this discourse with due and fitting expressions of modesty and apologies for opinion. After all, you are here to know my opinions, and where you disagree with them I could not mend matters by asking indulgence for them. Kindly, therefore, accent the word "should" as a mere convenient form of speech and nothing more.

To resume then: Public characters, such as energetic members of Parliament, explorers, and so forth, are subjects demanding a pose that shall stamp them as men of action even in the eyes of those who know nothing of them. In these days, too, there are ladies whose political ambitions would bar the use of the easy chair and the languid smile, and if one had to draw the line at a stone or a hammer, at least one would not give such a person a kitten to nurse or fancy-work to toy with.

It is easy in a pose of energy to make artistic faults. Gesture must be rigorously eschewed. The hands, of course, must be doing something, but the energy of the pose should exist in the sitter's backbone; that is, in the general alertness of his torso, rather than in the disposition of his limbs. We want to emphasize the sitter's mentalities, not his physical suppleness. Directly actual gesture comes in mere portraiture is sacrificed to dramatic considerations. A person whose life is made up of thought and action may very well show purpose by displaying a book, a sword, or other accessory of his calling—so long as it is one of the polite professions. Mere trade objects are, of course, barred, because most people avoid the signs of trade, but will swagger proudly with test-tubes, documents, palettes, musical instruments, swords, and so forth. The thing is to achieve the alert pose. The head may be turned a little, but very little, for the turned head is more the characteristic of the suave man than of the energetic. The eyes should be raised and the head, too, somewhat, and the spine should be braced rather than relaxed. A standing pose is best of the soldiery order—both feet bearing the weight equally, the body tense and balanced, ready for movement.

Where ladies and children are energetic and active many of the foregoing remarks may apply. With seated figures the spine again is the great factor. Standing or sitting it is better not relaxed, so as to take a double curve; but it can be flexed at an angle from the pelvis and preferably bent forward. You will recall the energy of the forward bend in D. O. Hill's well-known Mrs. Jameson.

Repose

In the case of people who are thinkers —poets, artists, and so forth—or who are merely handsome or luxurious, the

*A lecture by F. C. Tilney before the Professional Photographers' Congress recently held in London, and reprinted from the British Journal of Photography.

reposeful attitude avails and is perhaps easier to manage. As a rule the relaxed spine gives the suavest line, because it usually lies in a double curve. If the elbow is resting upon the arm of a lounge-chair or other support the body will take good lines for the purpose, for the mass will be thrown over to the side of the supporting elbow, thus tilting the shoulder-line and showing the settled, sluggish sort of look that is the opposite of the square level shoulders of the man of action. I would remind you of Hollyer's portrait of Walter Crane as a remarkable, example. In the seated figure there is, with men, a tendency to cross one leg over the other. It is seldom satisfactory at full view. Crossed legs demand trimming just below the knee. Only in profile are they tolerable, because then the feet are no nearer the camera than are the hips. But I would beg of you in the general contentment of the race, not to turn out too many hundred versions of the Whistler-Carlyle trick. At any rate, please never jam the man sidewise against a wall for the purpose, because no man in his senses ever sat so in actual life, as Carlyle and Whistler ought to have seen. In standing, the weight will generally be upon one foot only, and the hip thrown out and the shoulder on the same side lowered in consequence. A turn of the head will supply grace to the movement.

Dignity

The photographer will be advised to preserve the dignity of the sitter of either sex. If the person's carriage is one of consequence it may be concluded that dignity and importance is a cultivated characteristic, and such persons will not be flattered by a result that does not show it. Moreover, they probably know and could tell the operator that a proud bearing suits them better than any other.

Homeliness

The opposite state of things is true in the case of a homely looking person. A kind, motherly, adipose lady with a pleasant smile need not even hold the usual book. She can caress a domestic pet and her attitude should be settled and comfortable. In the case of the man it would seem that homeliness is not a characteristic that should be emphasized. One would certainly try to invest the much-married suffragette-ridden husband with all the strength and manliness he could assume. But a youth may be homely without hurt and take any lolling or free and easy pose.

Children will easily fall into their proper classification. There should be no difficulty in finding out whether they are bright and animated or shy and quiet—sedate, demure, naive, pert, curious, deferential, and so on. Whatever it is it should be seized upon as a motive for the pose, so that the fond relatives may exclaim: "Isn't that exactly like that sweet little thing?" or "That's the little rogue to a T!"

Posing for Pattern

The graceful posing of ladies is very well understood by photographers who have a lot of it to do, and probably the most unsuccessful of them have learned more of the matter by experience than I could tell them in theory. The great thing is to get the masses to hang suavely together, and this is very largely concerned with the principles of radiation of line. When I have said that the undulation of the spine usually sets the key for these line harmonies I have said all that is due under the head of posing. The rest is a matter of design, pure and simple.

Design

It should be understood that the principles governing a piece of orna-

ment or the forms of plant and animal life are identical with those that govern pictorial composition. Very briefly summed up they are that lines should not be parallel, but should flow in radiating groups from centres. The lines of a portrait are supplied by the contours of the figure and the folds of the drapery. All these must appear to be actuated by forces which act harmoniously together. If some of these should run at right angles they would seem to be due to a discordant force and should be avoided, although a right-angle direction may be useful at another part. One motive alone should dominate the composition.

It is often possible to enhance the attractiveness of a subject by adding something in the way of an accessory to the figure. Lines and masses that are a little stubborn may be coaxed round by the accessory object, as in the case of the damsel on the screen The two arms hanging almost parallel and the vertical lines of the dress would of themselves lack motive and interest; but the artist has obviated this by placing the urn in one hand so that the lines of it pass easily through the hands and wrists, providentially turned to receive them, and thus connect up a pleasing circuit throughout the length of the figure, doing so in such a way as to break and ameliorate the straight lines of the dress. The part played by this urn in the general shape of the mass brings us a step futher upon our synopsis, and we reach the subject of pattern.

Pattern

The designing of the pose of a figure concerns a photographer in exactly the same way that it concerns a sculptor. This fact is quite easily appreciated by the photographer when the figure happens to be a nude or something so near to it as to make no difference; but it appears to be lost in the more usual cases of a plenitude of clothes. One sometimes sees figures that look like conical bundles of garments with the head atop. Certainly some subjects are indeed almost devoid of posing possibilities. Still, there are always arms and a body to bend one way or another, and with these two factors it should be possible to get something like a pleasing line. What one has to think of in this business is the pattern or the silhouette of the subject and how it cuts against the background.

If the sitter's figure is lithe and shapely there should not be much difficulty in making it furnish the pattern in itself: but where massive figures, either from age, voluminous clothing, or other causes, almost render the case hopeless, then recourse must be had to accessories with which to help out the lines and masses. We saw how in the case of the damsel at the fountain her ewer or urn served such a useful purpose. In modern portraits the large hats of ladies frequently give valuable help in this respect. A portfolio, an animal, a curtain, a table, and similar objects may furnish means for supplementing the mass of the figure.

Spacing and Trimming

One of the secrets of a pleasing pattern is that it should not lie too far within the bounds of the picture. It is often of advantage to let the outer edge actually cut into the subject here and there. Only I must make a little reservation in this case. The only thing I have against this noble and exquisite picture is the fact that the artist has cut through his fingers. This is an unnecessary mutilation that I should excuse in nobody.

(To be continued.)

TRADE NOTES

THE DEFENDER PHOTO SUPPLY COMPANY, Rochester, N. Y., has opened a branch in San Francisco, in the Aronson Building, Third and Mission Streets. T. C. Muller is manager of the branch. The Sunset Photo Supply Company at 895 Market Street will continue to represent the Defender Company in a retail capacity.

UTOCOLOR paper has been on the market for a year now and has demonstrated the possibility of obtaining colored prints from autochromes or other color transparencies. The drawback to this paper has been the length of time necessary to secure a print, four to six hours being needed under normal light conditions. There was also a slight degradation of the colors noticeable. The Utocolor Co. of La Garenne-Colombes, Paris, has now introduced a new rapid Utocolor paper which shows a marked improvement over the old and slower paper. With the good light conditions now prevailing we have secured bright fully-timed prints in two hours. The colors approximate the original and are more brilliant than the prints obtained on the earlier papers.

Under our warm summer sun care must be taken that the transparency is not subjected to too much heat. The autochrome should be varnished—a special varnish is supplied for this purpose—and the Utocolor paper, before being placed in contact with the plate, should be rubbed over with a drop or two of olive oil to prevent the paper sticking to the plate, or we have seen a thin sheet of celluloid recommended in place of the oil. When fully printed the oil can be removed from the paper with a pad of absorbent cotton and a few drops of benzine. The developing process is a simple one, using the special fixing baths supplied by the manufacturers.

Owing to the nature of the colors the prints are not guaranteed to be absolutely permanent and it is recommended that they be kept in albums. Color enthusiasts will be glad of this means of duplicating their color plates, and this the new Rapid Utocolor Paper will do. Care, however, must be taken to see that the plates are not subjected to too much direct midsummer sunshine.

FOR more years than we can remember the name of CRAMER has been a household word in photography, built up and made popular by the well-known Cramer plate, assisted, of course, by Papa Cramer. Another bid for popular use is made by the Alpha Developing Paper just put out by the CRAMER PHOTO PAPER CO., of Chicago, and to be marketed by the Cramer Dry Plate Co. of St. Louis. Alpha paper is furnished in the many surfaces now popular in portrait photography, and includes linen and platinum finishes on both buff and white stock. It is a fast printer with wide latitude in exposure and development, a paper that merits your attention. Full details and particulars can be had by writing the CRAMER DRY PLATE CO., St. Louis, Mo., or any Cramer agency.

A WESTERN DEALER TO HANDLE THE PHOTO PRODUCTS COMPANY'S PAPERS.—The Johnson Drug Company, of Spokane, Washington, have recently put in a complete stock of Platora and Instanto developing paper and postal cards. This progressive concern has built up an extensive business in their photographic department, and doubtless their many customers, as well as other photographers in their territory, will be glad to learn of this addition to their already extensive line.

The excellent quality of these papers is now generally acknowledged, and they are rapidly making new friends among the profession, due to their merits and attractive prices. Any professional photographer who has not taken advantage of the liberal offer of the manufacturer, The Photo Products Company, of Chicago, to send for free samples, should do so. You surely haven't a chance to lose. The larger share of the business of this company is done direct with the photographer; "by return express" is their slogan.

HOW many photographers are missing the big money that can be made with a Circut camera? It is a camera with more possibilities of making lots of money from an exposure than any camera made. You cannot get a group too large for the Circut, and every face means a print sold. Proof of this statement can be found on the inside back cover of this magazine. Take a look at it and then write the CENTURY CAMERA DIVISION for particulars, mentioning W. P. M. when you write.

CENTRAL DRY PLATES have now been long enough on the market to prove their claim to good quality. They were also brought prominently forward at last year's big conventions, and made many friends. A combination of quality and economy that will repay investigation. Give them a trial.

JULY and August bring the hot-weather troubles, and the dark-room gets warm and stuffy and the plates begin to frill. The man with an EASTMAN PLATE TANK has met the trouble more than half way. Time in the dark room is cut down to the vanishing point; frilling, scratching, and finger-markings are done away with, and most important of all, better results are obtained. If you are not a tank user start right now. You'll do better work more comfortably.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor
MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK
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EDITORS' TABLE

OF course you are going to Philadelphia for the Convention! No professional photographer within reach, that is, within the United States, and most assuredly those photographers east of the P. A. of A. dividing line, can afford to stay away. Looked at from any angle the National Convention is the year's best investment. It amply repays any investment, with big returns in pleasure, profit, and inspiration. All the indications point to a record breaker for attendance, interest, and helpfulness.

THE English newspapers get up some striking and original contests to startle their readers. Last year one of them boomed the sweet pea into popularity. This year it is the turn of amateur photography. The *Daily Mail*, mildly yellow, and with a tremendous circulation, is offering a prize of one thousand pounds, or a trifle less than five thousand dollars for the best set of twelve holiday prints. A second prize of five hundred dollars and a third of two-hundred and fifty dollars completes the offering. The competition is world-wide. The aim is to show an enjoyable vacation, and the sort of pictures that will win are those that will cause everyone who sees them to remark: "What a good time you must have had!" Professionals on vacation at Philadelphia and Atlantic City, July 22, will have chance to show their skill at recording scenes of human interest. Atlantic City offers more human interest to the square mile than any place we ever heard of.

THE CALIFORNIA CAMERA CLUB, one of the brightest camera organizations in the country, has just issued its first *Annual*, a cheerful and interesting little magazine of sixty-four pages and some two dozen illustrations, favorite formulæ, and articles of up-to-date photographic information. We congratulate its editors and publishers on such a creditable issue.

A GOOD piece of advice given at the recent photographic convention in London was: "To the man who is not satisfied with his receptionist I would say, 'Change her quickly and change her often; change her until you find the right one, as an unsuitable receptionist is doing your business more harm than ever you have the opportunity to fathom.'" This is sound advice and should be acted upon promptly when the occasion arises. Very much of the success of a studio is made or unmade in the reception room. It is rather strange that we hear so little of reception room methods at present day conventions.

WE have often heard of things going to the dogs, and the other day we certainly thought W. P. M. was going to the hills. By a coincidence the first letter we opened one morning this week was from Richard Hill, of New Zealand, and the next one from Charles Hill, of Australia, both subscribers and good friends of the magazine. The latter remarks in his letter: "Am still finding your fine magazine useful and interesting, and through it, looking forward to the day when I shall be able to pay a visit to your country." We are always glad to see old friends.

THE Cedar Point Convention of the Ohio-Michigan Association this year promises to be as lively and entertaining as last year's successful meeting. It takes place two weeks after the National, August 6 to 9 inclusive. Some of the speakers are: Will H. Towles and Frank Scott Clark, under the skylight; Harry F. Atwood, "Twentieth Century Business Problems Applied to Photography;" Geo. Graham Holloway, illustrated lecture, "Personailty *v.* Individuality;" Mrs. K. K. Manning, "Reception Room Methods," J. C. Abel, illustrated lecture, "Studio Advertising;" M. F. Jukes, "Overhead Expense and the Need of Coöperation among Photographers." A big display of manufacturers' and dealers' novelties is assured and the picture exhibit will be a good one. Any spare time can be used up in boating, bathing, fishing, dancing, band concerts, and other amusements incidental to a high-class summer resort. If you get the convention spirit at Philadelphia and want to keep it up, go to Cedar Point.

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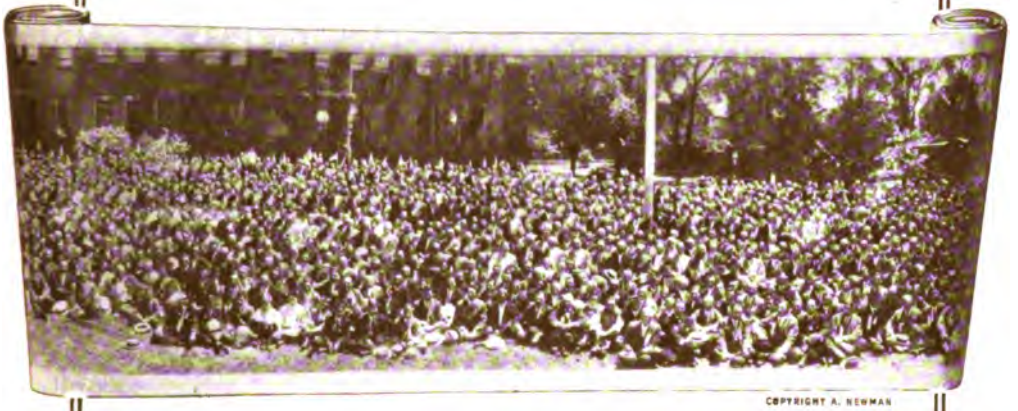

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Vol. XLIX ✣ ✣ ✣ ✣ No. 668

AUGUST, 1912

WILSON'S PHOTOGRAPHIC MAGAZINE

DEVOTED TO PHOTOGRAPHY MONTHLY: ILLUSTRATED

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WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. XLIX AUGUST, 1912 No. 668

THE NATIONAL CONVENTION OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA, PHILADELPHIA, PA., JULY 22 TO 27, 1912

THE National Association is piling success upon success and its latest convention, Philadelphia, 1912, will rank as one of the big successes, second only perhaps to the great Rochester Convention of 1909. President Larrimer planned an unusually full and attractive program and deserves great credit for the splendid manner in which it was carried through to a successful finish. From beginning to end the whole thing was one grand success, every promise was carried out and every one came away thoroughly pleased and more than satisfied that the Convention had more than made good in its instructional, inspirational, and social phases. Horticultural Hall provided the handsomest setting that a National Convention has yet had. If it had been as large again it would have been ideal.

The exhibition of pictures, for the first time selected by a judging committee, was above the average and made a splendid showing. Supplementary to the regular picture exhibit mention must be made of the magnificent and instructive display of prints made by the Ansco and Eastman Kodak Companies, also the beautiful negatives and transparencies shown by the Seed, Cramer, Hammer, and Central Dry Plate Companies in the manufacturers' section.

The manufacturers and dealers in uniformly decorated booths made finer displays than ever, and several important products were introduced for the first time and added considerably to the general interest.

The Congress of Photography is arriving at a fuller realization of its mission and produced some useful suggestions that were accepted by the Association. Through its efforts the Constitution was amended and improved.

The Women's Federation under the presidency of Miss Katherine Jamieson is taking a prominent place in the affairs of the National Association and doing much to improve the standing of the women photographers.

The Commercial Photographers have decided that the time is ripe for the formation of a Commercial Photographers' Federation to be affiliated with the National Assocation, and the Constitution was adopted and officers elected. This should be another source of strength to the National body,

which in time will come to thoroughly represent every branch of professional photography.

For the first time in its history the Association will publish in its *Annual* the complete report of the Convention, relieving this magazine of the self-imposed task of printing the report in full, which it has done for the thirty-one conventions prior to the Philadelphia meeting. Below we give a summary of the proceedings as gathered by our special reporter.

The Convention Day by Day

MONDAY, JULY 22

Monday morning found the manufacturers and dealers putting the final touches to the exhibition hall, Sunday labor being positively forbidden. Delegates and alternates to the Fourth Congress of Photography were called to order by Chairman C. F. Townsend, First Vice-President of the P. A. of A., who briefly opened the proceedings by remarking that he had no pet schemes to advance. Among matters discussed at this session were the desirability of providing a travelling exhibit of twenty-five pictures; the appointing of a paid permanent secretary to devote all his time to the work of the P. A. of A., and the publication of a monthly journal by the Association for its members. The per-capita tax also came in for a share of discussion and many suggestions were offered for its repeal or amendment.

During the evening from nine to eleven a grand reception was held in the Palm Room and Foyer of the Hotel Walton. President Larrimer assisted by the executive officers received the members and their wives. Old friendships were renewed and new ones made and the first day ended very pleasantly.

TUESDAY, JULY 23

The Thirty-Second Annual Convention of the Photographers' Association of America was called to order by President Larrimer at 10.30 A.M. The large hall was crowded to overflowing with the biggest crowd that ever attended a convention opening. John Wanamaker, the merchant prince, who was to have made the address of welcome, was critically ill and unable to attend. His place was taken by Wm. H. Rau, who bid the Association welcome to Philadelphia. President Larrimer then made a short but effective address and the Thirty-second Convention was in full swing. Committees were appointed and a report on the first session of the Congress was made.

Messrs. O. H. Bodine, R. W. Phillips, W. H. Kunz, C. Yarnall Abbot, and H. Crowell Pepper, who were to conduct the School of Modern Printing Processes, were introduced and began their demonstration of gum printing before a large and much interested audience. The later sessions of the school continued on Thursday and Friday, were all well attended and showed that there is considerable interest in these newer methods of printing.

There was a business session at 2 P.M. followed by an interesting session of The Women's Federation at 3 P.M., with President Katherine Jamieson in the chair. Pearl Grace Loehr read an instructive and interesting paper on "Home Portraiture." This was followed by a paper on "Color Photography," prepared by Clarissa Hovey, the well-known color expert, who was unfortunately unable to be present. Jane Reese, one of our most capable women photographers, gave a very able demonstration of negative making that clearly proved that the men have no monopoly in negative making.

The evening was devoted to a lecture on "The Science of Salesmanship" by Frank Jewell Raymond. This was one of the big hits of the Convention. Mr. Raymond is a splendid speaker and a first-class actor. His points and their application to professional photography were very cleverly made, and while he kept the huge audience in a continual ripple of laughter, many points went home and many helpful suggestions were impressed upon an eager and receptive crowd.

WEDNESDAY, JULY 24

This was the great Atlantic City day, when every member of the Association was transported to Atlantic City, fed and entertained at the expense of the Association. Leaving Philadelphia at 7.30 A.M., in two special trains, some thirteen hundred conventioners, men, women, and children, spent an enjoyable day on Atlantic City's world-famed boardwalk and beach. Surf-bathing and the thousand and one attractions of this unique resort helped to fill in every minute of a long and enjoyable day. At noon the huge crowd gathered at one of the famous hotels and sat down to a good dinner, accompanied by music and much good-fellowship. Trains at 6 and 10 P.M. brought the crowds home, and without exception everybody was happy. Needless to say the Convention Hall was deserted all day, and coming in the middle of an unusually strenuous week the "day off" was thoroughly appreciated and taken advantage of as a day of rest and recreation.

THURSDAY, JULY 25

Refreshed by the Atlantic City trip the morning session started in with vim and vigor at 9 o'clock, and interesting and instructive demonstrations of negative making were given by Dudley Hoyt, Joseph Knaffl, R. W. Phillips, A. F. Bradley, Pirie MacDonald, and others.

At 1 P.M. a luncheon was tendered the Women's Federation by the Women Photographers of Philadelphia. The luncheon was served at the Hotel Walton, Mary Carnell, of Philadelphia, acting as toastmistress, with some sixty Federation members and friends present. President Katherine Jamieson was presented with a handsome gold bracelet. The other ladies present received green jade bracelets as souvenirs. It was a most enjoyable affair and some good speeches were made. Miss Gerhard almost gave away the secret formula for getting a fifty dollar order from the five dollar customer.

The afternoon session of the Convention was devoted to a series of five-minute talks by prominent photographers, including such men as E. B. Core, New York; C. L. Lewis, Toledo, O; D. D. Spellman, Detroit; Dudley Hoyt and Pirie MacDonald, New York; Edmondson and Bowersox, of Cleveland, O; Phillips and Rau, of Philadelphia; Parkinson, of Boston; Koehne, of Chicago; Lively, of McMinnville; Golling, of St. Paul; Harris, Washington; Doty, Battle Creek, Mich; J. C. Abel, Cleveland, O., and L. G. Holloway, Terre Haute, Ind. Many useful hints and experiences were given and the discerning listener could gather a few pointers as to how our famous photographers became famous.

A business session of the convention followed.

In the evening Alfred Stieglitz talked for an hour and a half to a big audience in Witherspoon Hall, urging photographers to stick to straight photography and leave oil prints, multi-colored gums, etc., to the amateur and experimentalists.

FRIDAY, JULY 26

The morning session was devoted to receiving the final report of the Congress of Photography and reports of various committees. Past President G. W. Harris was presented with a Life Membership certificate by Mr. E. B. Core on behalf of the Association.

The election of officers and place of next year's convention was next in order. The recommendations of the committee on nominations were followed and the regular ticket carried as follows: President, Charles F. Townsend, Des Moines, Iowa; First Vice-President, Manly W. Tyree, Raleigh, N. C.; Second Vice-President, C. O. Towles, Washington; Treasurer, L. A. Dozer, Bucyrus, Ohio; Secretary, Homer Harden, Wichita, Kansas.

Kansas City, Mo., was selected as the location for the 1913 Convention.

Friday afternoon was devoted to the manufacturers' and dealers' displays. The hall was crowded with an animated throng and considerable business was done. The photographers were loud in their praise of the many unusually fine displays of prints and negatives shown by the various paper and plate manufacturers.

From 2 to 5 P.M. the picture exhibit was thrown open to the general public, and Philadelphians in large numbers availed themselves of the opportunity to see a representative display of the best in professional portraiture.

At 6 o'clock the members of the Association gathered in full force at Turngemeinde Hall as the guests of the Philadelphia Entertainment Committee. The nature of the entertainment had been kept a dark secret and one surprise followed another and anyone that did not have a right royal time must be difficult to please. Beginning with dinner, followed by moving pictures of the members entering and leaving the Association Hall, some high-class vaudeville, and winding up with a dance in the small hours of the morning. Altogether a thoroughly enjoyable evening planned on a big and generous scale. The members of the Philadelphia Entertainment Committee are to be congratulated for their achievement.

SATURDAY, JULY 27

There was a morning session, when the negatives and prints made in the schools during the week were exhibited. Several business items were then disposed of and the Convention adjourned to meet in Kansas City in 1913.

PRACTICAL COLOR PHOTOGRAPHY

BY CLARISSA HOVEY

[THE following interesting and concise article on color photography was prepared by Miss Clarissa Hovey, of Boston, and read before the Women's Federation at the National Convention. Miss Hovey is an accomplished color photographer and has demonstrated the artistic and commercial possibilities of color photography.—EDS. W. P. M.]

MISS PRESIDENT AND FELLOW-WORKERS: I am going to be very informal with you. I feel sure that what you want to hear from me is the practical side of color photography

and not the scientific. I sincerely hope that is what you want, because I really do not know much more about the scientific whys and wherefores than I do about stocks or a telephone switchboard.

I trust those of you who have made color plates, and know probably more about them than I do, will bear with me, because my talk is to those of you who have not taken up color photography and to those who are in the experimental stages. I hope that any of the former will augment my remarks at any point and that the latter will ask questions freely. I feel sure we shall all get more out of the subject in this way.

A color photograph does not necessarily mean a picture, any more than a platinum print does, if the composition, lighting, and all that goes to make a picture are bad. I presume many of you have thought, as I have, that when the process became better known, and everyone made color plates, it would be cheapened, and an autochrome would be an autochrome no matter who made it. That illusion, in my mind, was entirely dispelled when I had the great treat of seeing two hundred autochromes exhibited in New York last February at the convention of the Professional Photographers' Society of New York.

The process of finishing the plates is so mechanical, it would seem, on first thought, that when that was conquered any one could produce a masterpiece. One of the most interesting things to me in this wonderful exhibition of two hundred autochromes was the great individuality in the work. It seems hardly possible that autochromes could be of such different qualities. You could identify the plates of the different photographers almost as easily as you can identify paintings by artists of different schools. There were all kinds there, from a plate of the most charming, elusive, delicate rainbow, caught in the Grand Cañon of Arizona (one of the most delightful autochromes I have seen), to the regulation, stereotyped, flat-lighted, scenic background, with carved pedestal, stone-wall, and heavy, gaudy drapery accompaniments. There were some perfectly magnificent autochromes there, and some that personally I should have thrown in the waste-basket. The exhibition was a great treat and inspiration, and I wish you might all have seen it.

The whole story, after all, is the "man or woman behind the camera." If you have a sense of color combinations and of composition and posing you cannot fail to produce some charming plates. Your autochromes will be characteristic of your work, be that original and artistic or commonplace and commercial. I might tell you exactly how I handle a plate from the time I take it out of the box till I show it in a mirrorbox, and some of you, starting out by yourselves, would produce a much more beautiful plate than I possibly could and some of you an inferior one. There is a something that lies latent within ourselves that we must have to be able to make pictures. A mass of all sorts of colors is not needed for charm. One of my best portraits has the least of vivid coloring in it. Your inclination on beginning will be to photograph a bed of scarlet geraniums, or, with a portrait, to have your model wear her brightest frock, a gorgeous colored scarf, and hold a bunch of Killarney roses. See if you don't want to do that! It is the most natural thing in the world to find out what the plates can do. But after you have satisfied yourself on that point, I am sure you will be just as interested to see how far the other way you can go, and how inter-

esting a plate you can compose out of a plain green woody path, or a girl in a simple middy blouse, or even a man in a black suit, without even a carnation in his coat! At first, men, as autochrome models, did not appeal to me in the least. I took it for granted that, with their sombre clothes, they would not make interesting color plates! But I have since found that a man can be interesting even in an autochrome.

The wonderfully beautiful qualities of these plates and the tremendous possibilities in them appeal greatly to me, and I am always irritated when people insist on saying that it is too bad we cannot print them on paper—the transparencies are so beautiful! Supposing you do have to go to a window and look through them. You can not enjoy a miniature across a large gallery, nor could you enjoy Sorolla's enormous canvas of the oxen, which is in the Metropolitan Museum, in your own 2 x 4 living room of your apartment.

I am so enthusiastic on the subject I want to speak of the charming qualities of the autochromes, such as:

Beautiful gradations of color (not simply bright daubs of color).

Beautiful luminous quality.

Transparency in shadows.

Lack of halation.

Stereoscopic effect.

Beautiful atmospheric haze in the landscapes.

Wonderful perspective.

Effects of sun and water—the sunlight is real sun and the water is wet.

Different colors of water, from deepest blue to leaden gray.

Blue shadows in the snow.

Many of these delicate charms are lost when viewed by a yellow light.

The booklet published by the plate-makers is very concise and practical, and by it I taught myself the process. I am going to follow through the outlines of it with you rapidly, hoping that the benefit of my experiences on a few vital points may save some of you from adding old glass to your pile quite so rapidly. Those of you who begin now have not half the stumbling-blocks we had who took up the process three or more years ago. To begin with, the plates are much better in quality, and instead of nine solutions which the company hypnotized us into thinking we had to have, we now use two or three. The original book of instructions was quite enough to drive anyone simply mad to read it, to say nothing of trying to execute the instructions, and I do not wonder a great many gave up in despair. The actual process of development is not difficult, although exceedingly fussy, and sloppy, careless workers could not succeed in it.

The plates are exceedingly sensitive and must be handled in an unleakable darkroom with the virida yellow and green papers in the lamp. The surface of the plate is so sensitive that it must not be touched with the fingers or rubbed along the plate-holder or against the protecting cardboard, it scratches so easily. They are put in the holders glass side out, the ground-glass in the camera reversed for focusing, and the exposure made through the appropriate yellow screen. The plates work much slower than the ordinary dry plate—so much so that for a side-lighted portrait near a window I should give twenty to thirty seconds exposure, when for a regular plate I should give but one or two seconds.

The exposure you have to determine for yourselves by experimenting, and let me suggest right here that you begin your experiments on lantern slide size plates, so that your dump heap of discarded plates will not reach quite the proportions mine did, nor, incidentally, will your purse look quite

so emaciated. I have found a record of every exposure very valuable for reference. Conditions vary so—the stop used, the light, the month and time of day, you simply cannot remember from one July to the next July what exposure was correct.

You have your choice of two methods of development—"fixed-time" and "controlled time." I believe in eliminating anything that is confusing at first, and, while by using the controlled-time development, you can save many plates that are not correctly exposed, I should not advise a beginner to use it. The directions for this method of development—the table of complicated looking figures to paste on your lamp—look forbidding, although they really are not. Like anything, it is easier after you know how. I should advise using the fixed-time development till your heart gets down to normal (if it ever does—I get excited over every plate I do to this day). Your trays must be clean, solutions must be filtered, or specks settle on the surface of the plates and cannot be removed except at a great risk. The temperature must be taken before every plate (I refer to the temperature of the solution not the photographer). The temperature is really very important. Have all the solutions, even the washing water, 60° to 65°, and after your dark-room becomes close and hot stop developing autochromes. A current of air is much better to work in if you can have it. It is not always possible during July and August though.

The booklet is very complete and I will not take time to go into the details of development. There are two distinct developments: The first gives a negative image. I mix my developer from their metoquinone formula, although the developer comes in stock solution ready for use. Their directions for washing three to five minutes in running water are wild. I should just as soon think of playing football with a wet autochrome plate and expect to sell it afterward as to wash it in running water for five minutes. I have my washing water in a pitcher and have it the same temperature as my solutions. Use a tray larger than the plate and pour the water on very carefully. Otherwise you are liable to have an experience similar to that of an acquaintance of mine. This man phoned me one day to tell me his first experience with autochromes. He ran the water in the tap as cold as it would run and washed his plates under it between developments. As it was in November, the water was in all probability about 40°. In the final washing he said the film of all four plates slid off and down the sink spout! I never wash in more than three waters and sometimes only one. The film is so sensitive and thin that the difference between the temperature of the atmosphere and that of the solutions, or a difference in the solutions, will cause one of the most tragic accidents an autochrome is liable to—frilling. A chrome-alum solution or a 40 per cent. solution of formaldehyde, used 1 to 20, is good to soak the plates in before, during, and after development in hot weather.

After the first development the plate is put in the reversing solution of permanganate of potassium to dissolve the silver reduced by the developer. This permanganate of potassium is a gorgeous purple solution which stains your fingers and shirt-waist cuffs brown, leaves streaks on the plates if left in too short a time, and deposits specks over the surface of the plate if insufficiently filtered. It is a very unlovely solution except in color.

The reversal of the image and second development are carried on in daylight.

From 2 to 4 minutes completes the reversal. The plate must be left in till no streaks can be seen on looking through the plate. Then the plate is washed carefully again in perhaps three waters (not three minutes) and put back in the same developer, where it stays two to four minutes, or until all the white has disappeared and the positive image appears. Rocking the trays in all stages of development is wise. After the second development, wash in one or two waters (one if the room is hot) and put in a rack to dry. Do not carry the plate when wet through the air at any time. Put it from one tray directly into another.

I believe it is best to varnish the plates. I did not do it at first, but I do it now and think it wise. You can spot them more easily and the varnish protects them. Be sure and use plenty of varnish and use that plenty quickly, otherwise it will dry in streaks. You will be very grateful to me later for reminding you at this point that gasoline will remove the varnish from your fingers. Also for warning you not to rip off sections of the film when you extricate your fingers from the edges of the plate after varnishing. The plate is then ready for passe-partouting.

In the diascopes is the choicest way to exhibit autochromes—you get every single beautiful quality in that way. Exhibit only your good plates. Many people have received wrong ideas about the possibilities of the plates by seeing poor ones. You would not think of showing a prospective customer a mussy, spotted platinum photograph, but some photographers exhibit some of the worst looking color plates.

You undoubtedly would like my opinion of the commercial possibilities of color photography. It is simply incomprehensible to me that people do not flock in droves to have color plates made of their beautiful children and their summer gardens. A great many of my plates that I have sold have been made on speculation. I do not believe, ever, in boring customers with things they do not want; but when a good opportunity comes up during a regular sitting to make an autochrome (with or without the sitter knowing it), the chances are nine to one that you will sell her one. As you all know from experience it is incomprehensible what customers will insist in choosing. I have made some charming plates of good-looking girls, and parents would be sufficiently indifferent to them to spoil a sale for me. Then, on the other hand, I have made some plates for which I expected to be sued, and really hesitated whether I should show them to the customer or put them in the waste-basket, and sold them on sight. These plates are very valuable for copying paintings and miniatures in commercial work.

I hope that in spite of the extreme simplicity of the process my personal experience may be of practical use to some of you.

THE MANUFACTURERS AT THE PHILADELPHIA CONVENTION

THE manufacturers' and dealers' display at the National Convention becomes each year an increasingly interesting and important factor of the Convention. This year the exhibits individually and collectively were of a very high order, and conventioners could learn much commercially and

artistically from the various exhibits. Following last year's precedent, a prominent local firm of decorators was engaged and all booths were lined up and uniformly decorated, the color scheme being white and green. Firms exhibiting were represented by heads of departments with their most popular and capable salesmen on hand to take care of all visitors. The whole of Horticultural Hall, excepting the assembly hall used for the meetings and the salon for the picture display, was devoted to the industrial exhibit and more space could have been used to advantage.

Some of the manufacturers and their displays were:

Eastman Kodak Company, who occupied a commanding position at the head of the grand staircase. They filled the entire foyer with nine large panels draped in green velvet, each panel containing a choice collection of framed prints demonstrating the various good qualities of Artura, black and white and sepia; E-B and E-S platinum paper. The centre panel of the collection provided the sensational surprise of the Convention, a splendid collection of prints made by Elias Goldensky, from his own negatives, on "Zelta" matt-albumen paper, a beautiful product here shown for the first time. Matt-albumen has long been a favorite printing medium in Europe, especially Germany, as witness many of Dührkoop's original prints, and it is safe to say that "Zelta" matt-albumen will soon take its place as the leading printing medium for the best class of trade. The paper has wonderful latitude and produces exquisite tones of sepia, olive browns, grays, reds, and rich blacks. We understand that the paper will be on the market very shortly. At the other end of the hall and occupying the entire platform was a display of the full line of Eastman accessories, comprising a splendid line of studio cameras, including the New Home Portrait Graflex camera, evolved to meet the special needs of the rapidly increasing number of home-portraitists.

The Ansco Company made a magnificent display in the entrance hall, where they had arranged ten well-designed cases handsomely finished in oak and gold, and containing a collection of prints of unusual merit from the studies of such front-rank artists as Kasebier, Goldensky, Towles, Steffens, Ellis, Phillips, Sanford and Davis, Buckely, Mishkin, Core, Sykes; Pach, Bradley, Selby, and Brock. This was deservedly one of the most popular exhibits of the Convention and Cyko was never displayed to such advantage, and this exhibit must have made many new friends. Not content with being in on the ground floor, the Ansco Company had a large booth upstairs in the main exhibition hall with a varied display of their products.

The Defender Photo Supply Company, of Rochester, have been so busy doubling the size of their factory that they did not have time to prepare an exhibit. Their office and sales forces were fully represented, however, and the voting contest for the two hundred dollar diamond offered by the Company for the most popular photographer was one of the features of the Convention. The diamond was easily captured by Miss Katherine Jamieson, President of the Woman's Federation.

The Cramer Dry Plate Company, with the genial and ever-youthful Papa and Mrs. Cramer to greet old friends, made a fine showing in the entrance hall. The big display of illuminated negatives and transparencies made a convincing demonstration of the good qualities of the Cramer plate. Alpha, the new develop-

ing paper put on the market by the Cramer Company, was displayed for the first time and was the subject of much favorable comment.

The Seed Dry Plate Division of the Eastman Kodak Company occupied a booth in the entrance hall and had an interesting display of negatives, transparencies, and prints.

The Hammer Dry Plate Company had a big display of examples of what their product is capable of, and used illuminated negatives and transparencies to good effect. An interesting historical exhibit here was an enlarged picture of the first Convention group made in Chicago, in 1880, when the late John Carbutt was president, one member of the group, made thirty-two years ago, in attendance at the present Convention, demonstrating that the Convention habit dies hard. The original of the Convention picture is the property of Nate Corning, of the Hammer Company.

The Central Dry Plate Company, of St. Louis, made a big and interesting display of good negative work that leaves no doubt as to the qualities of the Central dry plate, which though a new comer has swiftly taken a place in the front rank.

The Bausch & Lomb Optical Company, of Rochester, had an interesting display of work produced by their various lenses and some very clever photographic work was shown.

The Photoloid Company, of Cincinnati, was showing a new printing medium that was creating a lot of interest. A regular development print emulsion is put onto a celluloid base and the resulting prints have the color and appearance of carbon prints on ivory.

The C. P. Goerz American Optical Company, of New York, had a tastefully arranged booth displaying a full line of their well-known lenses and cameras. The new Goerz Hypar lens, producing a wonderful softness in portraiture, was shown for the first time.

C. B. Robinson & Sons, of Grand Rapids, had a line of studio furniture that commended itself to the practical photographers. It is studio furniture designed by a photographer for photographers.

The MacIntire Photo Supply Company, of Chicago, were demonstrating the new MacIntire printing machine fitted with automatic timing device to control Cooper-Hewitt mercury vapor tubes and a set of incandescent lamps for either fast or slow papers. The company also demonstrated "Ucatone," a development paper made to produce sepia tones in first development. The range of color obtained by varying the time of exposure and development was a revelation to the crowd that usually watched these demonstrations.

The Berlin Aniline Works had a full line of their developers and Agfa flash powders. In connection with the latter they have just introduced a set of aluminum spoons in three sizes attached to a key-ring. They allow quick and accurate measurement of the powder, and being made of aluminum the powder will not stick to the bowls.

George Murphy, Inc., of New York, were in the entrance hall ready with the latest information on Dufay plates, Ross lenses, Eagle tanks, and a host of accessories needed in every up-to-date studio.

Trapp & Muench Company, of Chicago, showed prints on Tuma, a matte-albumen paper that is very largely used in Europe.

The Haloid Company, of Rochester, had a choice collection of nine prints, demonstrating the good qualities of Haloid developing paper.

The Wollensak Optical Company, of Rochester, had a line of their lenses

and shutters backed up by some fine examples of photography that have made the products of this house famous.

E. B. Meyrowitz, of New York, U. S. Agents for Carl Zeiss, made a fine showing of Tessargraphs; the same being clever pictures of familiar figures seen in and around the Convention, the work of H. M. Bennett, manager of the photographic department of E. B. Meyrowitz.

AN INEXPENSIVE ENLARGER

BY W. E. SWOYER

MANY photographers make a nice profit from enlarging work; others cut down this profit by wasting the valuable daylight hours in enlarging, because the fixed-focus daylight machines are cheap and easy to operate; still others neglect the field entirely because they consider the apparatus expensive and the work difficult. Men in the last two classes should be interested in the device illustrated herewith, since it is easily constructed, works at night, and, aside from the fact that it requires a longer exposure under the same conditions, is as efficient as the high-priced condenser outfits.

No attempt is made to decry the latter; they are splendid pieces of mechanism, and no doubt the manufacturers realize no greater profit than is common in any branch of business; the fact of their high cost is, however, not eliminated thereby. It is, in fact, necessitated by the laws of optics—as, for all of our purposes any artificial light may be considered as a point, and therefore the rays which travel from it to the centre of the negative pass through a shorter distance than those which reach the corners, giving the centre a greater exposure. Two remedies suggest themselves; either we may move the light back so that this is not so noticeable, or we may employ condensers to straighten the light rays—one increases the necessary explosure and the other doubles the cost. In any enlarging outfit using condensers, they will be found to represent about one-half the price of the complete outfit; this is particularly true of the larger sizes. In addition, we pay for a bellows and focussing arrangement, and sometimes for a projection lens.

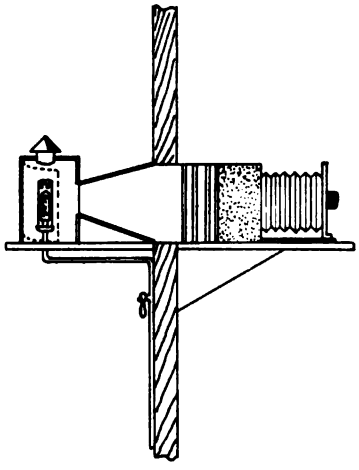
It is obvious that if we can do without the condensers, and substitute our regular camera with the back removed for the bellows, lens, and gears of the commerical enlargers, we are going to reduce the cost of our outfit by just that much. If we can maintain the same efficiency and sacrifice nothing but the time needed for increased exposures—even that is not so great, as no adjustment is required, as when condensers are used —it would seem to be a paying proposition.

In the enlarger illustrated, the light (which may be either arc, Tungsten, incandescent gas, or acetylene) is about twelve inches from the negative; a cone is built which concentrates it, and the necessary diffusion is obtained by one or more sheets of ground glass.

An opening, a trifle smaller than the back of the camera which is to be used for enlarging, must be cut in the darkroom wall, and a shelf fitted even with the bottom both outside and inside;

the outer shelf should be about two feet long, and the inner large enough to support the camera with the bellows fully extended—the latter may be hinged to fold down out of the way when not in use, if desired.

ENLARGER SET UP



Upon the outer shelf is placed the box containing the light; this may be an elaborate affair of sheet metal, or a simple tin coffee can, with an opening cut in front and top, will work nicely. The light-cone is attached to this box, and the opposite projecting edges nailed to the wood work of the partition surrounding the opening; this latter joint must be tight enough so that no light except that which passes through the cone can enter the dark-room. The construction of the cone is clearly shown in Fig. 1 of the detail sheet.

A box, as shown in Fig. 2, is now to be fitted to the inside of the opening; it is open at both ends, and in height and breadth it should be the same as the camera box. Several slots are cut in the top and corresponding grooved pieces nailed inside; one slot, the nearest to the camera, must be large enough to admit the negative holder later described. The others are just wide enough to permit the insertion of a piece of ground glass; a velvet or felt flap arranged to cover them after the glass has been put in is an additional protection.

DETAILS

FIG. I

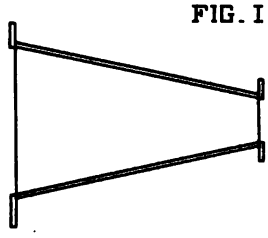
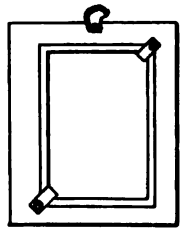


FIG. II



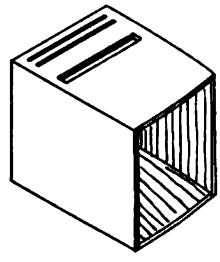


FIG. III

Fig. 3 of the detail sheet illustrates a holder by means of which the negatives may be rapidly changed; it is simply a rectangular piece of wood with an opening, one-eighth of an inch smaller each way than the negative, cut in the centre. A shallow rebate the exact size of the negative is then cut, and brass clips provided at the corners to hold the glass in position.

The apparatus is now complete, except that all cracks must be filled with putty and the pieces given one or more coats of dead black paint both inside and out. The method of using it needs no explanation.

It may be noted, however, that the addition of extra sheets of ground glass will prolong the exposure and

give a stronger enlargement from a weak negative; a harsh negative may be softened and broadened at will by inserting one or more sheets of ground glass between the negative and the camera. With the light turned on and the camera removed, a very efficient printing light for developing papers is provided; a sheet of ruby glass may be dropped into one of the unoccupied slots; by raising and lowering this, you can convert it into either a safe light or a printing lamp on the instant. In fact, it is well worth constructing for this feature alone, for the shelf provides a rest for the frame, so that both hands may be used for dodging, and hence the light of the dark-room does not heat a spot already uncomfortable, and keeps the odors of combustion where they belong as well.

REMOVING THE FILM FROM A CRACKED NEGATIVE

It sometimes happens that a negative of value becomes cracked in such a manner that the glass only is broken, not the film. There are several ways by which the difficulty of printing from such a negative may be overcome so as not to show the crack. One method in particular is the insertion of a piece of albumenized paper or good tissue paper between the face of the negative and a piece of clean glass plate the size of the negative, then binding the two together with strips of gummed paper. The best results are obtained by this plan when albumenized paper is used.

Sometimes more than one crack is produced in a negative, in which case the difficulty of utilizing such a defective plate is greatly increased.

Many times the question of how to best remove the film and retransfer it to another glass plate has arisen. One difficulty—if not the most important—has presented itself, namely, how to penetrate the substratum which holds the gelatine film composing the negative, so as to release it from the glass support, because the substratum is generally a compound of gelatine and chrome alum, which is harder and more adherent to the glass than the gelatine film. This is often noticed when cleaning old negatives with hot water and carbonate of soda. Although the film dissolves from the plate perfectly, the substratum still remains in patches in such an adherent form as to require the use of a knife to effect its complete removal.

There is a method of accomplishing this without the use of either hot water, soda, potash, or of strong mineral acids, none of which is certain in its action.

The process here to be described is one of great simplicity—one that can be used with certainty by any person, the solution employed being quite cold, and the application of heat being quite unnecessary. In fact, the colder the solution the better the result.

If the negative is a portrait and the face has been retouched, it will be advisable to remove the retouching with a tuft of cotton moistened with turpentine and cleaned off thoroughly. This, however, is not absolutely necessary, for a film can be removed just as well with the retouching on as if it had been removed. Whichever plan is adopted, a small amount of retouching will be required after retransfer. One point in particular must be attended to: the trays used must be thoroughly clean, and only hard rubber or composition trays can be employed, for

reasons which will be explained. The bottles that are to contain the stripping solutions must also be quite clean. In fact, use new ones so as to be quite sure of this. The results will repay those who undertake this extra trouble.

The composition of the chemicals given below is the same as that known as "Magus." It is not only simple, but sure and certain in its action. Prepare the two following solutions in two separate bottles:

No. 1

Fluoride of sodium . . .	½ ounce
Water (ordinary)	16 ounces

Cork this bottle, shake well, and mark "No. 1."

No. 2

Citric acid in powder . . .	1 ounce
Water	16 ounces

Shake this well, cork it, and mark "No. 2."

Have at hand a clean glass plate, say 6½ x 8½, in a tray of clean, cold water. If the negative to be stripped is 5 x 7 it should be transferred to a 6½ x 8½ plate, so that if the film is not placed quite truly, it will be a very easy matter to cut the plate to the right size after the film has dried. To strip the film from the cracked negative, take 4 fluidounces of No. 1 and pour into a tray of hard rubber, 6½ x 8½; then add 4 ounces of No. 2. Rock the tray so as to obtain complete admixture of the two solutions. Then immerse the negative, film side uppermost; carefully rock the tray, first endwise, then crosswise. Allow it to stand for half a minute, then rock again. It will now be seen that the film is frilling slightly at the edges. Rock the pan a little. Now, with the forefingers and thumbs of each hand, lift the film clean off the cracked plate, place it in the water above the clean glass plate, lift the plate by the two top corners, and adjust the film so as to leave a clean margin all round. Lift the plate and film together by the top, and drain slightly. Lay the plate in a horizontal position and carefully adjust the film so that there are no air bubbles present. See that the film perfectly adheres to the glass support. Then, after draining off the excess of water, allow the transferred film to remain in a horizontal position until dry. Never allow the drying to take place with the plate in a vertical position, for the film may become split. There is just enough tackiness upon this side of the film to admit of its adhering firmly to the glass plate. By this method of transfer a valuable negative may be saved for future usefulness.

A very useful adjunct for this class of work is a very thin *soft* squeegee. With the aid of this handy tool the transferred film may be set down very evenly upon its new support and the excess of water removed at the same time.

It may be advisable to make a trial or two upon some discarded negative before attempting the transfer desired. This will give the practice and confidence necessary for the final operation.

The process will appear marvellous to those who have never performed such an operation. The true action is this: When any acid is brought into contact with fluoride of sodium (citric acid in particular), the element fluoride separates from the sodium base and attacks the glass surface through the porosity of the film. By this means the adherence of the gelatine film, together with its substratum, is released, the film being then easily lifted. At the same time the citric acid combines with the sodium to form citric of sodium, which remains in the water. Several negatives may be stripped in the same solution, but the solution will not

keep. After use it should be thrown away.

If it is desired to enlarge the film after stripping, simply allow it to remain in the clean water for a minute or a short time longer, then proceed as before to attach to the glass plate. Caricatures are easily produced by this means—by stretching the film unevenly. The face or any part of the figure in a portrait can be easily distorted, and it remains permanently so upon its support.

The reason for using hard rubber or composition trays instead of glass or porcelain is to avoid their being attacked by the liberated fluorine, which would also lessen the action upon the negative.

UNPROFITABLE ADVERTISING

ONE of the most delicate tasks which the Editor has to face is to answer letters demanding the name of the best lens, camera, paper, or what not. It is, of course, highly flattering to know that our opinion on such matters is desired, even though we appreciate that it is human nature to disregard advice and decide on one's own responsibility. If our correspondents would reflect before writing, they would see that it is impossible to state flatly that this, that, or the other article is best. What suits one photographer may be entirely unadapted for another. Our answer, therefore, to such communications must be to refer the inquirer to our advertising columns and to recommend his sending for catalogs and, if possible, obtaining the goods on trial. In the case of lenses, in particular, this course should always be followed, because the performance of an objective can best be determined by actual trial. At the same time, it must be remembered that the user can bring out the highest possibilities of any lens only by studying it and learning its little peculiarities; and that the finer the lens, the more sensitive it is to imperfections in the camera.

Bearing these facts in mind, it is clear that makers who complain that advertising does not pay should carefully consider to what extent the quality of their goods is responsible. The public cannot be fooled very long by inadequate mechanical devices and poor workmanship in photographic goods, because the faults make their presence known almost immediately, and even the tyro soon learns to lay the blame on his apparatus, if it rightly belongs there. We are glad to state that our advertisers make honest goods and indulge in no exaggerated claims of excellence, so that our readers may feel sure that if the goods on examination prove to be what they want, they will be safe in buying them. But it must not be forgotten that the lowest-priced articles should not for a moment be compared with the most costly articles of similar type, nor should equivalent service be expected of them. There is a tendency for the average buyer to consider first cost rather than wearing quality and to hesitate about laying out a large sum of money at the start. Low price, however, does not necessarily imply inferiority, for it is not what one pays for a thing but what one gets out of it which determines its value; and if one's requirements are fully met, it might be unwise to pay

a higher price. There are many most excellent articles of low or moderate price on the market, and they are capable of rendering good service. Experience with inferior articles results in either one of two ways: the novice abandons photography because he cannot always get satisfactory results, or he buys more expensive apparatus after the cheap has worn out. One never hears the maker of the highest class of goods complain that his advertising is not paying him, for the articles themselves effectively supplement his copy and become silent salesmen. The better an article is, the more profitable it is to advertise it extensively, because it is only a question of a little time before those who have been handicapped by their tools will go to some trouble to accumulate the price of the superior article. Hence the wise purchaser will always consider the amount of advertising which is done by the maker, and conclude that the most persistently advertised articles are probably for that reason the best.—*American Photography.*

METHODS AND FORMULÆ

Writing on a Negative. All that is required is a little ordinary copying ink. The required wording is written with it with a pen on clean white paper, the size required, and is allowed to dry. Then after soaking the negative in clean water, the surface water is blotted off the film and the writing paper is squeegeed into close contact with it. Dampening the back of the writing paper before squeegeeing onto the film is a good plan. After the lapse of about a minute the paper can be taken off and the writing will be found to have transferred to the film.

Cleaning Glass and Porcelain. An effectual solution for cleaning photographic glass and porcelain dishes which have become badly discolored is made of one ounce of bichromate of potash dissolved in ten ounces of water. When thoroughly dissolved add slowly one ounce of commercial sulphuric acid. Stir with a glass rod and be very careful not to get any of the acid on the hands or clothing, as it burns quickly. In cleaning the trays use a swab tied to a stick, and throw away after use. The best plan is to clean one's trays with soap and water each time they are used, for the once using cleans off very easily and avoids stains which have become set and impossible to remove. Stains from the developing of gaslight prints may be removed by substituting nitric acid in place of sulphuric. The sulphuric acid solution will also clean bottles stained from the storing of chemicals.

Varnish for Bromide Prints. The following water varnish has been recommended for giving increased depth and richness to bromide prints. A hundred and fifty grains of borax are dissolved in five ounces of boiling water, and the solution has added to it—

Shellac	300 grains
Sodium carbonate	50 grains
Glycerine	2 drams

After boiling for ten minutes the mixture is allowed to go cold, and then has five ounces of wood alcohol and a quarter of an ounce of pumice powder added. It is well shaken up, allowed to stand for three or four days, the clear liquid being decanted and filtered for use.

STUDIO OF SPEAIGHT BROTHERS, LONDON

Upper: Waiting Room

Lower: Reception Hall.

Drawn from Life

By CARL BOHNEN, St. Paul, Minnesota

Drawn from Life

By CARL BOHNEN, St. Paul, Minnesota

THINGS TO AVOID

1 Arms like hams

2 Ugly hand-carved chairs that make the sitter uncomfortable

AND HOW

3 Pose without weight

4 Use a good every day living-room chair

THINGS TO AVOID

5 One-armed ladies

6 Artificial and strained

AND HOW

7 Pose both arms

8 Simplicity and dignity

1 Sir Richard Southwell

2 Portrait of a Young Man

3 Portrait of a Man

4 Lady Butts

Illustrating Sidney Allan's Article

5 Henry VIII

6 Portrait of an Old Man

7 Dr. John Chambers

8 Lady Vaux

Illustrating Sidney Allan's Article

9 Simon George from Cornwall

10 Derich Born

11 The Artist's Wife and Children

12 Erasmus

Illustrating Sidney Allan's Article

MASTERS IN PORTRAITURE—HANS HOLBEIN

BY SIDNEY ALLAN

EVERYBODY who has seen the collection of Holbein drawings at Windsor Castle will agree, whatever else the opinion may be, that there was a man who could show character. All the line work is so precise and clear and yet so picturesque in effect and the facial expression so lifelike and convincing that one pauses in sheer wonder at the wizardlike dexterity of this mediæval painter.

Of course, the Windsor Castle drawings are drawings, or, to apply a perhaps more appropriate term, sketches. This explains to a certain extent their unusual virility. Sketches always convey the spirit of spontaneity more readily than finished paintings. But Holbein succeeded in preserving the placid touch of his sketchy treatment in his most elaborate portrait compositions, and this is the more astonishing, as most of his portraits are what a modern artist would call "highly finished." There is no shirking of detail, no blurring of effect; every phase of facial construction is noted down with almost scrupulous care.

The illustrations accompanying this article are all reproductions from well-known portraits scattered throughout the galleries of Europe. They all have beauty of drawing in common. Can anything more perfect, as far as pure line work is concerned, be imagined than the otherwise so unsympathetic face of Henry VIII? The artist makes us like and accept the picture as a superior production by force of his technique. And in Holbein's art it means the contrast of line and flat planes. Nearly all his portraits are constructed in that manner. They are often nothing more than colored drawings, but he had the true eye for painter-like effects. He could produce depth and tone by a few large, dark, and well-placed planes. He concentrated all the light—and even light that did not throw deep shadows—upon the features, treated the bust in as simple and shadowy manner as possible, and silhouetted the shape of the head and shoulders and arms clearly against a middle-tint background.

He apparently liked three-quarter views best, as the three-quarter view affords finer opportunities for the display of skill in drawing than any other. Figs. 1, 2, 4, 5, and 12 carry out this principle most convincingly. They show the bust as well as the face in three-quarter. For younger men and women he sometimes favored the full-face view, as shown in Figs. 3, 8, and 10. In these compositions he also favored the three-quarter view of the bust (viz., Figs. 3 and 10). In his three-quarter face views he sometimes favored the full-front bust view, as seen in Figs. 6 and 11. Profiles he used only sparingly.

Holbein always applied the simplest, most fundamental principles of composition in his portraiture, and it is a matter that could be well recommended to all latter-day portraitists. Queer and novel space and tonal arrangements, no doubt, have their place, and please us by their variety, but they never convince, as the simpler forms invariably do.

Holbein's aim was to give us the human face, and he did it without subterfuge. Look at the bulky nose of the old man (Fig. 6). What modern

portrait painter would dare to present it in such a straightforward, matter-of-fact, almost brutal fashion? Holbein subdued the shapeless organ by his extraordinary draughtsmanship. He studied it, no doubt, with a vague smile on his lips and a twinkle in his eye. It interested him, and he drew it simply as he saw it. And it was his interest in all manifestations of form that saved the situation. By being interested he rendered the depicted object interesting. His truthfulness of delineation is astonishing; no line or plane in the facial expression of a human being escaped his notice, and he reproduced every observation with a fidelity that is as rare as it is fascinating.

The portrait of Erasmus (Fig. 12) was one of his first portraits. He painted it at the age of twenty-eight, and in a way it established his fame. Through this portrait—still a trifle hard and awkward—he made the acquaintance of Sir Thomas More, who introduced the young German painter at the English court, and ever after Holbein was intrusted with important portrait commissions, both for the king and the principal personages of the kingdom. Holbein's portraits are one of the best commentaries of that particular period of history. The king and his unhappy wives and all the notables of his personal entourage have come down to us in his canvases like living human beings.

From the viewpoint of composition the totality of effect in Holbein's portraits is particularly interesting. Everything is subordinated to the facial expression, a typical, as it were, composite character delineation, and this was, and is to this very day, the highest aim of portraiture. Worthy of special consideration are also a few minor peculiarities of treatment that occur again and again on his canvases. One of them is the introduction of lettering in the background (viz., Figs. 1 to 4). It would look awkward in most pictures, but does not seem to furnish any disturbing element in his canvases. This is due to the symmetry and severity of his form arrangement. The lettering is frequently large, though never conspicuous. On the contrary, it lends a slight decorative note, an animation to the background in the otherwise so calm and at times almost austere composition.

Holbein apparently overcame all difficulties by directness of representation. Fig. 4, the portrait of Lady Butts, is a good proof of this statement. The angular lines of the headgear would have exasperated a modern portraitist. The mediæval painter, not abashed the slightest, cheerfully utilized the angles and white lines as a sort of geometrical pattern. The unwieldly forms were there; they were characteristic of the period in which he lived; they reflected the portrait, and, in a way, the customs and manners of the people. What was the use of idealizing or ignoring them? So he simply made the best of existing conditions—at all times a wise thing to do.

The same holds good of Fig. 9. Who would today represent a bearded man with a carnation in his hand? The artist would be afraid of being criticised. It might look silly. But is there really anything unpleasant, foolish, or over-sentimental about it? If a thing is well done the feat of performance condones for all incongruities.

The group of the artist's wife and children is perhaps one of Holbein's most ambitious efforts. The figures look detached, but the heads are well placed and the lighter planes offer

perfect balance to the rest of the picture. In the mother's careworn face (she led a rather unhappy life of prolonged separation from her husband) we notice the same truthfulness of expression. We see a distinct character before us. And to anybody acquainted with the painter's biography it will represent a chapter in itself, a chapter filled with devotion and sorrow and maternal love. Portraiture that can convey such an impression is great portraiture, and Holbein frequently was one of its most illustrious exponents.

THE POSING, LIGHTING, AND ARRANGEMENT OF PORTRAITS

(Concluded from p. 334)

Relation of Parts to the Edge

But, the lamentable fact notwithstanding, we can see that the form or pattern, being thus welded to the edge, gains a decorative import. The planning becomes a deliberate artistic effort to make the pattern fill the space to advantage, and the edges are not then the negligible quantities that they are when the subject is confined to the inner area. But all such matters must have careful consideration. It is sometimes seen among amateur photographers what mischief may be done by ruthless and ill-advised trimming. There is one word of advice that may be welcome to a few, and which I may very well submit here. In cutting into a mass by trimming, it is seldom fortunate to eliminate more than half of any recognized form, say, for example, a sculptured urn. If the greater part is lost, what remains is usually of an unshapely pattern, and moreover the idea is aroused that the object is squeezed in from the outside. It is better looking as though it were a necessary part of the design, which it would do if the greater part of it were inside the boundary. It makes finer design for the trimmed object to increase in bulk from the place where the edge cuts it. Imagine these differences of treatment in an urn or marble bust or a bowl of flowers, or a flying drapery, and you will see the force of such an apparently trivial matter. But as to this question of spacing, a good many painters of the first order have allowed plenty of space around their figures. A style that is good does not necessarily imply that its opposite is had. You may trim close or be expansive. The difference is that of good wine and good bread—both excellent things; not the difference of good wine and bad wine.

Under the heading of spacing or trimming we must also consider the relation between the subject in the negative and its placing upon the print. We are all familiar with the cabinet photograph upon which the head and shoulders appear to have slipped down an inch. It is quite possible that such heads have been deliberately placed in the absolute centre. A scientific mind would consider such an arrangement orderly and desirable. But the mathematical centre is by no means the sensuous centre--an instance of the difference between science and art. If a spot is to look in the centre of a parallelogram it must be higher than it looks. This is a golden rule which I strongly commend to your consideration.

Another fault is one which causes a head to look lost amidst its surrounding. It is often visible in heads which

are vignetted. When we have a feeling that we should like to trim half an inch off all around a cabinet print the meaning is simply that the head is too small. There should never be a sort of fight between a head and the plain space surrounding it. The head should be big enough to command the whole field, otherwise it will have the footling appearance that is prejudicial. The larger the head the less room there is to go wrong in placing it upon the field. Nevertheless danger lurks in the extreme. About 25 years ago the Americans introduced the enormous head, only just squeezed into the field by grazing the top curl and the chin. These things were distinctly unpleasant. They looked monstrous; but they really only wanted more room, which would have obviated the stale and second-hand look they had of being enlargements cut down to be squeezed into a cabinet album.

Sometimes a good and rather decorative effect is gained by placing the head at the top of the picture, or, at any rate, far enough above the ordinary centre to make it relinquish all claims to that position. This plan is good if there is enough of interest either in subject or treatment to warrant the inclusion of so much body beneath. The ordinary commonplace dress scarcely does; but state robes and regalia or special costume may give the idea an excuse. It certainly lends itself to design and pattern much more usefully than does the head in a more central position. In the case of a lady's head and bust it may be possible to make each occupy about half the field. But here again there is an extreme of which to beware. To get the head too high and small is to trespass on the domain of the large picture, in which case the result will resemble a miniature of the accepted half-length painted portrait. I don't know that there would be any crime in that; but in these days the head is the most important part of a portrait, and seems to hold good claims to all the available space.

Another drawback, to a small head, unless vignetting is resorted to, is that we may get disturbing spaces between the arms and waist, and those are best avoided.

The last point under the heading of spacing and trimming is one which is constantly overlooked; indeed, it is one of the commonest mistakes among photographers. It is to allow a head or figure to be too near the side toward which it looks.

Unless a figure looks straight out before it, which is rare except in amateur productions, it will be found to give interest to the side toward which the face is turned. The opposite side is therefore of much less importance, and seems redundant unless it is well trimmed.

Lighting

We must now consider the subject of lighting. One would think that photographers had little to learn on this subject considering that monochrome photography is nothing else than a record of much or little light upon objects. Yet it has been pointed out to me that there are practising photographers with good connections and paying business who are ignorant of the elementary principles of light and shade. At the risk of boring others who are masters of this subject I feel called upon to treat it *ab initio*. A glance into the sky when it is filled with masses of cumulus clouds is sufficient to prove that not only does light and shade reveal character and beauty, but it is also directly responsible for modelling. The cloud that sails under the cloaking of higher masses obscuring the sun is possibly just as varied

in mass, yet it appears to be flat and nebulous. The one in bright sunshine is, of course, nebulous also, but it appears to be carved in a firm substance. The most rugged modelling tells for nothing in a diffused or an equal lighting. Imagine yourself looking along the furrows of a newly ploughed field with the sunshine behind you. How much is seen of the furrows? — positively nothing! The field looks as though it had just been rolled. But look again when the sun has travelled round some way, and the field is then scored with sharp dark lines alternately with light ones. Those who are out of the way of ploughed fields can try the experiment upon a corrugated iron roof or a piece of patent strawboard packing.

Simple Lighting

It follows that if we have arrangements for altering the direction of light in our studios we can at will either reduce to a minimum the modelling upon the faces of our sitters or exaggerate it to the utmost strength. This is evidently the greatest power in the operator's hands — a power for the enhancement of character as well as for the refinement of roughness. I feel bound to say here that it seems to be the accepted thing that professional photography should find its ideals either in the gently lit portrait with the light diffused, or else in having shadows discounted by reflections to the elimination of the full tone of the modelling. These methods are not conducive to the beauty of modelling. The interest and charm of the wrinkled and intelligent face of Dürer's father now shown lies in the frank portrayal of every furrow, facet, and plane of the fine old face. A diffused lighting would have upset all this, and a strong light from one side opposed by lights reflected into the shadows from the other would have confused it. I need only remind those who are familiar with D. O. Hill's work that his great success in the likeness, character, and sculpturesque grandeur of his heads is due almost entirely to the unsophisticated manner of his work. He used the naked sun as an illuminant, and thus got the contrast offered us by the ploughed field under similar conditions. His slow lenses and slow plates kept all his shadows darker than a technician of today would permit; but the final result lost nothing thereby from an artistic point of view. If you have a seared old dowager who is ashamed of her wrinkles, no doubt the only thing to do is to light them so that they appear at their minimum; but the same method is very frequently employed for subjects in no such need, such as young women and children. A young child's soft skin and smooth flesh, its melting planes and rounded contours, are in no more need of diffused lighting than a billiard ball would be. On the contrary their beauties are enhanced by being treated in such a way that the delights of the modelling gain their utmost chance.

Complex Lighting

In every well-equipped studio movable blinds can be adjusted so that a directed ray can fall from the side, from above, from behind, or from the front as occasion demands. Usually one side is left practically without entry of light; but this side is generally only too well provided with reflecting surfaces. In a studio built upon the greenhouse principle it is possible to get light upon all sides of the figure in imitation of an outdoor effect. Such studios are valuable for figures supposed to be engaged in open-air pastimes, but they seem to be in more need than the indoor studio of pictorial

backgrounds and other paraphernalia. The lighting of figures in them is naturally very highly complex, and may give a lot of trouble for doubtful results. The effects may be very novel and charming; but unless the photographer is very much of the artist he had better rely upon the old traditions of lighting tested and tried by painters all through the ages and never yet weighed and found wanting. The best of these is the more or less direct and simple light falling from a point in front, at the side, and slightly above the sitter. If the light comes too full upon a full-face the nose may have a shadowy tone upon both sides of it which is not desirable. The old painters, among them Rembrandt, admitted the light from a very small window rather high, into an otherwise dark studio. Painters in these days temper this method without, however, losing sight of the principle of the direct and simple light when portraiture rather than a pleasing head is the object. In the case of scenes containing figures, such as garden pictures, interiors, and so forth, the conditions are different, for we are not then dealing with the portrait pure and simple, but with a host of other things appertaining to the other arts of genre and landscape. If then it is desired that the sitter shall be subjected to these other pictorial considerations, the employment of cross-lighting, diffusion, and reflected lights may be indulged in to any extent; but so long as the portrait, the sitter himself, is the chief motive of the effort, then the simpler the lighting the easier will come success.

Reflected Lights

The use of reflectors may easily degenerate into an abuse of them. The photographer is frequently quite obsessed with the notion that they will "clear up his shadows." They should, however, be in no need of clearing up if everything is in order. The *carte de visite* of the sixties exhibits a strength and virility which differentiates it from the highly wrought and often emasculated print of today. I imagine that the studio arrangements were simpler in those old days. Shadows were not lit up until they lost their quality and richness. It should not be overlooked that reflected light is usually made to fall full upon the shadow side, with the result that any modelling there is flattened out of existence on the principle of the sun full on the furrowed field. Add to this defect the still more invariable treatment by a process extensively employed today in all photographic businesses, and one that I have been advised not to touch upon, and we have our shadowed side reduced to the interest of a piece cut out of a gray mount.

There is, nevertheless, a system of presenting portraits that are all shadow except for an edge of light. I think these are described as "Rembrandt" portraits, although anything more unlike the practice of that immortal master does not lie within the possibilities of photography. I say nothing either for or against it. It may be well or badly done. At the best it is fantastic, and to be tolerable it demands the utmost nicety of modelling. Allied to this style is a fault, often noticed, of lighting a full face too much from the side so that an aggressive line of light strikes the ear and passes round the head. Now has the ear the best claim to be emphasized in a portrait? It appears to me that the eye and brow are the seat of the mentalities and can best stand the emphasis of the highest light. One may get novel and arresting effects from lighting the head from below or behind, but it would be impossible to make a practice of such

modes, and it certainly behooves photographers to make themselves masters primarily of the time-honored customs of lighting.

Concentration and Diffusion

The question of lighting not only effects the likeness of the sitter, but it also governs the pictorial conditions of the whole thing. A concentrated lighting usually implies a dark environment, and a diffused lighting one in which everything is in a comparatively light key. The alternatives are, of course, matters of choice.

Contrast and Flatness

The thing to be borne in mind is that over-contrast and over-flatness are both equally undesirable. The most forceful effect should have a general harmony and relation of parts. Accessory objects and other masses all dark but picked out with edges of light are thankless materials for the make-up of a good picture; while, on the other hand, the feeble effect of a flatly-lit composition will certainly induce apathy in the spectator. A portrait may be, as we often see, in a very light key, and yet suggest full roundness and modelling. But even the light-keyed efforts are apt to pall.

Gentle Force

The effect that wears best is that of a gentle force in figure and setting both: the old conventional thing, in fact done well and tastily. A danger to be avoided is a general partial lighting which brings out a sprinkling of light and shades everywhere. If this occurs some re-arrangement must be made by which darks will be swept together and the lights also.

Backgrounds

This brings us to the consideration of backgrounds, and their part in the complete effect. I shall not here go very exhaustively into the matter of backgrounds. I have spoken of the modulated variety of the plain background as the most serviceable. With such a background the use of accessories in anything short of a full-length is obviated. Whether this modulation is the result of shading by blinds, or whether it is painted on the 8 x 8 cloth does not matter much, as long as it is there in some form or other. A portrait that is backed by nothing at all is bald to ugliness--it has no harmony of parts. The great essential is that the lights and darks of the backgrounds should come at the proper points against those of the figure. The principle formulated by Da Vinci four hundred years ago has always held, and does today. It is that the darker side of the figure should touch upon the lighter side of the background, and *vice versa*. The contrast thus set up need be no more than sufficient to emphasize the important parts, which are usually in the head. The example on the screen carries out the idea very well, except for the blaze of light over the shoulder, which discounts the force in the head. There is another tradition of painting, which would have cured that defect, but it does not yet seem to have found its way into photography. It is to allow a darker tone on the background that may pass for the shadow of the sitter. It occurs not directly against the sitter, but at the other side of the light patch of the background. The picture before you is a moderately successful example

of it. Too much attention cannot be paid to the adjustment of the background, which, indeed, is the thing that lifts a mere figure-study up to the level of a picture. Its dark and light passages should be used for massing with those of the figure, as already described, for the betterment of the composition and to secure simplicity and strength of effect.

Horizon

With regards to the horizon, perhaps it is unnecessary for me to remind you that it is actually always at the level of one's eye. If we go up a high mountain, it comes up with us, and naturally allows for a lot of the earth spread out down to our feet. If we wade into the sea so that the water is up to our eyes, the horizon is down there, too, and the earth and sea are foreshortened into a mere line.

Its Relation to the Figure

It is a fact that things above the eye look bigger and more imposing than things below. It is also a fact that to look down on things does not make us feel respectful toward them, while to look up at them reminds us of our own lowness. This is optics and moral philosophy all at once, and so you should regard the matter. In the old days, when decorative wall-painting was much practised, it was usual to place the horizon actually at the feet of the figures, because of their gain in dignity. In like manner, to avoid the loss of dignity in their portraits, painters have at all times used a platform about eighteen inches high, called a 'throne," upon which the sitter was placed. This secured the foreshortening of the lap. I do not remember to have seen such a thing in a camera studio; but I affirm that if the sitter is to be seated, either an elevated seat or a very low camera is required for the best results.

Relation to Type of Sitter

Especially is this so if the portrait is more or less one of state, such as an official in robes or a lady in full dress or in character. It is not, perhaps, so necessary if the pose is a domestic one, or one where a writing-table is employed, because in such a case the mind makes due allowance for looking a little down on the sitter, since that is the way the figure would be seen when so engaged. But it is better to err on the other side, for nothing looks more ignoble than a bird's eye view of a person's scalp, shoulders, and lap; and a fine pose under such conditions is impossible. With children the case is different. They are so often near the floor that we do not regard that view of them as undignified. Even then the camera should not be too close. In all cases more grace and better proportion results from the more distant standpoint.

Relation to the Design

Of course, it is absolutely essential that the horizon, if it is simulated in the painted background, should agree with the actual one fixed by the camera. Unfortunately, this is a common source of error. If the horizon is represented upon a painted background, care must be taken that the lens is level with it. Figures will then look right whether they are on the floor or up on steps, banks, or terraces. Close up the foreground as much as possible by a low camera, not pointed downward, and keep the latter as far away as may be. Those are two golden rules for dignified posing.

Expression

Having arranged the pose, the lighting, the background, and the design, we have yet another responsibility, and that is the expression of the sitter. It will be admitted that a person's characteristics are looked for more in his facial expression than in his pose. Therefore it is a most important matter. In photography it is even more difficult than in painting. We may be charmed with the eloquence of a sitter's face while the preliminary conversation is going on, only to find it replaced with a stony mask when the business begins. You probably all know better than I can tell you what dodges to adopt in order to keep the expression alive.

Animation

Painters talk to their sitters. Perhaps photographers could squeeze the bulb immediately after the sitter has finished a sentence and before the vital force which prompted the remark has had time to evaporate. A sharp "Excuse me" driven right into the middle of a remark might instantaneously hold him up while the shutter is opened.

Contemplativeness

The contemplative person should give no trouble. His habit is to sit without moving. Such a person can be posed at leisure, and then asked to take no notice of anything, but to think about the thing that gives him most concern in life. A sitter possessed of a face of great character need not even be asked to look pleasant or interested; he will do best as he is.

Dignity

There is, further, a style of face that is in no need of expression at all, and that is the handsome face. In fact, such faces are as a rule vacuous. All the portraits of Mrs. Langtry, who was, in her heyday, the nearest approach to the classic ideal of any professional beauty, show her to be devoid of any claims to expression. The best period of Greek sculpture is, indeed, without facial expression. Character implies a departure from the normal: mere beauty must necessarily be the exact normal of an accepted canon or type. With such a sitter little trouble can arise, and silence and serenity will create the best atmosphere. My own experience has taught me that as a rule a beautiful model "goes all to pieces" the moment a remark or a ripple of thought disturbs the mask-like placidity, and it demands severe silence to keep her sculpturesque. Usually handsome people of either sex have considerable dignity of expression and sometimes a touch of haughtiness gives a spice to the dignity. If such a feeling of superiority is detected in the sitter, it may not be amiss to flatter it by such a remark as: "I suppose you must be very tired of being photographed, but naturally there must be a great demand for copies." A smile with a haughty touch will certainly appear if it is a woman.

Charm

But some beauties have charm, and charm calls for more animation, which may be evoked by nicely chosen deferential but not too distant small-talk the very slightest degree personal. If possible, let the eyes look to the lens, even if the head should be turned a little away. This is a thing that is not at all required with the coldly handsome lady.

Fitness of Expression to Subject

All these wiles every good photographer knows. Obviously, it is not

wise to adopt an invariable method of approach to every sitter. The ideal way, though it is not always practicable is to get to know the sitter a little first, and when that is done it is impossible that such a mistake would be made as to cause the haughty beauty to be jocular or the pensive poet to grin. A suitable expression covers a multitude of sins in other directions, and it is, therefore, of the utmost importance that the fitting expression is seized upon when it makes its appearance. The "smile, please" idea is, I hope, forever exploded, for who but a musical-comedy girl, rich in teeth, can smile to order?

Groups

With regard to groups, it would appear that the greatest difficulty lies in the direction of a proper unity of interest. It is not at all easy with two or three figures having equal claims to prominence to combine them satisfactorily in one picture. To suppress one of them by any available means would be fatal to the photographer's interests. He has to put them all practically on one plane, and to give each something like a fair share of lighting. In the Royal group now shown, Messrs. Downey have, by adopting a formal and symmetrical arrangement, obviated most of the trouble. Here the close massing of the figures into a light group makes a single object of it by contrast with the dark background, and so, pictorially, the situation is saved. This, being in the nature of a state portrait, lends itself to an arrangement which would be much too formal for a holiday or a domestic group.

The surest way to secure a proper unity of purpose in the sitters is to see that every member of the group is actuated by a common interest. It is very unwise to let the individuals look in different directions, for this appears to divorce their interests. Neither is it advisable to let them all look into the camera, for that suggests the school-treat group. The two girls shown upon the screen are a nicely composed pair, and they would have been nicer still had both been contemplating the same unknown object. In pictures of mothers and little ones it is usual to turn the heads toward each other, which is certainly better than letting both stick bolt upright.

The mother and babe has had a lot of attention in recent years, and many excellent examples by Dührkoop and others are well known.

PHOTOGRAPHIC DEALERS' ASSOCIATION OF AMERICA

THE photographic dealers who have been urging the formation of an association met at Philadelphia during convention week and affected the permanent organization of the Photographic Dealers' Association of America. A constitution was adopted and the following officers were elected: President, C. A. Huesgen, New York; First Vice-President, E. H. Goodhart, Atlanta, Ga.; Second Vice-President, W. A. Bell, Philadelphia; Third Vice-President, A. E. Schaeffer, Houston, Texas; Fourth Vice-President, H. S. Smith, Boston; Secretary, W. Hartman, and Treasurer, H. M. Bennett, New York. The objects of the Association are the improvement and betterment of conditions in the photographic supply business—increasing

the standard of help, reduction of insurance rates, coöperative advertising, oversight of legislation, participation in civic matters, and kindred objects.

While the attendance at the first convention was not up to expectations, it is hoped that a more general interest will be shown at the second annual convention which will be held at Rochester, N. Y., in March, 1913.

COMMERCIAL FEDERATION OF THE P. A. OF A.

THE natural thing is happening to the Photographers' Association: Growing too large and unwieldy to handle all its affairs in the few days of a convention, it is beginning to divide itself and form wheels within wheels. The first offshoot from the parent body was the Woman's Federation, to take care of the special interests of the increasing number of women members of the Association. The next development is the formation of a Federation of commercial photographers—members of the Association who feel that there is room for a closer union of the men who are doing more or less commercial work, or photography of which portraiture is not the big end of the business.

After several meetings of those interested, a constitution was adopted and permanent officers elected. The object of the Federation is mutual help for commercial photographers and improvement in commercial photography. The dues are one dollar per year, and membership will consist of active members of the P. A. of A. who are engaged in commercial photography either exclusively or only partly so. Associate members will be employees, manufacturers, dealers, and their representatives.

The officers elected were: President, R. W. Johnston, Pittsburg; First Vice-President, Chas. D. Kaufman, Chicago; Second Vice-President, F. Booth, Toronto; Secretary, E. S. Caywood, Philadelphia; Treasurer, O. W. Cole, Danville. The Federation started with some fifty charter members, and it should become an important section of the National Association. Commercial photographers are cordially invited to join.

CARBON PRINTS ON METALLIC SUPPORTS

GENERALLY, when the photographer desires to produce carbon prints upon a metallic support, especially upon a bright and highly polished surface, he employs a preliminary coating of normal collodion, this coating being relied upon as a substratum or go-between with the metal plate and the carbon print. This is especially so with a plate of copper that has been coated with silver and highly polished. For the production of carbon portraits upon bright copper or highly polished silver surfaces, the use of collodion is not necessary. Carbon prints upon metal surfaces are invariably produced by single transfer, so that the developing is made direct upon the metal. If the plate should be made of brass, nickel-plated copper, or a bronze of almost any description, then it is advisable to use a preliminary coating of collodion. This is necessary because of chromic acid which forms

the base of the bichromate of potash (used to sensitize the tissue) attacks the zinc contained in brass, or the nickel coating on copper, or any nickel alloy combining with the nickel or zinc and liberating copper in a free state, giving spots and patches of copper upon the surface. Collodion being an inert body, acts as a neutral layer upon the surface of the alloy.

The preparation of the carbon tissue does not differ in any way from the usual practice. A very good sensitizing solution for the carbon tissue to be used may be prepared as follows:

Bichromate of Potash (c. p.)	2 ounces.
Distilled Water	50 "
Glycerine	15 drops.
Salicylic Acid (dissolved in hot water)	15 grains.
Carbonate of Ammonia	40 "

When the above are completely dissolved, filter the solution through absorbent cotton and sensitize the tissue by immersing it for three minutes. Squeegee the tissue down upon a clean sheet of glass, then suspend it to dry in a ventilated and darkened room. Having the tissue ready, it may be kept for use in a printing frame larger in size than the tissue by placing in the frame a piece of thick sheet glass covered with black paper. Put in the tissue, replace the back of the frame, and keep the tissue under pressure.

If it is desired to produce a grained surface upon, say, a plate of copper or aluminum, proceed in the following manner: Clean the copper-plate well by dipping it into and rubbing it with a small rag-mop dipped in a solution of lye. This solution is made by dissolving a small quantity of potash lye, about four ounces dissolved in one quart of warm water; allow it to cool off before use. The copper-plate must be planished and polished previously. Having cleaned the plate with the potash lye, wash it well and dry. When dry, brush the back of the plate over with shellac varnish or asphaltum varnish. Allow to dry in a warm place. The plate should be handled by the edges only, the fingers not being allowed to touch the surface. The surface of the plate must now be rubbed well with a stick of charcoal, such as is used by photo-engravers. Dip the plate and charcoal into water; lay the plate upon a smooth board, inclined over a sink, so that in rubbing the surface backward and forward, the surface grinding drops into the sink. The graining is produced by immersing the well-cleaned copper-plate into a mixture of

Nitric Acid	1 ounce.
Water	20 ounces

If the graining is to be coarser, the water must be reduced to fifteen ounces. In the course of a short time it will be seen that the surface of the copper has been attacked by the acid. Rock the tray a little, and in the course of a minute or two remove the plate, rinse it in running water, then scour the surface with a fine brass wire scratch-brush. This can be done by hand, or, if possible, use the rotary scratch-brush in a scratch-brush lathe of a silver plater. The object of the scratch-brushing is to rub down any slight burr formed by the etching of the acid. The plate may now be washed by dipping into hot water. It will dry by its own heat.

If aluminum be employed, hydrochloric acid (muriatic acid) must be used instead of nitric, because nitric acid will not attack aluminum except at a high temperature. The proportion of hydrochloric acid may be the same, with the addition of half an ounce of common salt. This lessens the intense action of the acid. The scratch-brushing must be resorted to

as before, rinsing the plate, dipping into hot water, and drying.

Assuming now that a carbon print has been produced upon the tissue in the usual way, all that is necessary will be to take the copper, silvered, or aluminum plate, and dip it in the lye. Rub lightly with a soft cotton mop, rinse in clean water, and as quickly as possible soak the exposed tissue. Dip the tissue and metal plate into a syrup composed of

White Granulated Sugar . . .	1 pound.
Water	½ pint.

This solution must be used only in a cold condition.

Place the soaked tissue and plate together; cover with a piece of india-rubber cloth, glazed side uppermost; place upon a level surface. Now apply a squeegee, lightly at first, then gradually increase the pressure at every stroke, not rapidly, but with a slow, heavy pressure. If several plates are used, some bright, some grained, the treatment is the same. Allow the plates to stand for fifteen or twenty minutes before developing. At the end of that period place them in cold water, allow to soak for a minute or two, then transfer them to a larger tray containing warm water. Rock the tray so as to get rid of the air-bubbles on the surface. Take the first tray, half fill it with water of a somewhat higher temperature, take one of the metal plates out of the warm water, immerse it, then carefully lift the tissue from one corner. All that will be necessary now will be to throw the warm water over the surface of the plate with the right hand while holding the plate in a sloping position with the left hand. In a very short time the print will be fully developed. Wash it by dipping into clean, cold water; then immerse it in alum bath compound of

Common Alum	2 ounces.
Water	100 "

The plate must remain in this bath for not more than five minutes, because the film should not be hardened too much.

Proceed in the same way with the other plates, and after the alum bath wash them by laying them in clean water from tray to tray, giving five minutes time to soak, so as to completely remove the alum. They then may be placed in a clean rack to dry.

Carbon prints produced upon bright silvered plates have very much the same effect as daguerreotypes, with this exception, the portrait may be seen at any angle, hence they have often been called daguerreo-carbons. Prints produced upon aluminum have an exquisite velvety effect, being at the same time absolutely permanent.

INDOOR PORTRAITURE AT HOME

INDOOR portraiture is very far from being the formidable operation which some seen to think it. It does not demand expensive apparatus, nor an elaborately fitted studio; nor is a knowledge of retouching required by the amateur, whose portraits aim at being pictorial records of character and personality, rather than "the usual thing" smoothed and polished out of all resemblance to the subject. As a matter of fact, all the apparatus that is needed for portraiture is probably cheaper than for any other branch of photography, while the ordinary studio is a place to be avoided.

In the first place the camera may be a very inexpensive affair. The question of portability had not to be considered, and elaborate movements are not required. The one essential is to have a fairly long extension. An advertisement in a photographic magazine will often lead to the purchase of an old-fashioned camera, which although it may have seen better days, is made of good material and soundly constructed. These old cameras, although practically obsolete for general purposes, will be found excellent for portraiture, and can often be picked up for a few dollars. While frequently rather heavy and clumsy, they are usually very rigid, and they can stand occasional tumbles on a polished floor better than some modern productions.

The lens also can be a cheap one; as for artistic work a first-class lens becomes almost a drawback, except when very rapid exposures are necessary. This can be seen by a glance at some of the showcases of professional photographers, where the biting sharpness employed causes the hair to look like wire. This, however, is not the only trouble caused by a high-class lens; for it will often happen that a sitter's face will possess innumerable wiry lines, many of which, although they may be practically invisible to the eye, will be faithfully recorded by the indiscriminating optically-perfect instrument.

Then in ordinary professional portrait work comes the retouching process, by which they are removed, together with those other lines denoting character, which , in a real portrait, it is so essentail to retain.

The kind of lens required is one which will give a soft rounded image without any "bite." There are several varieties on the market from which to choose, such as the Smith, the Pulligny, the Dallmeyer soft focus, or a good single lens as referred to below. These lenses will produce most delightful portraits, soft but not fuzzy, and with proper handling will ignore the mass of unnecessary facial detail, thus obviating the use of retouching.

I am the proud possessor of a single lens of seventeen inches focus, made about fifty years ago. This treasure I picked up on a barrow in Soho for 4*s*. I had it remounted in a light mount, and although it covers a whole plate well, I prefer to use it as a long focus lens on a cabinet. For most of my work I stop it down to about *f*/6.5, but it will work at *f*/4. At this aperture it naturally gives a somewhat impressionistic rendering; but for some subjects this is most pleasing.

The peculiar quality of the image given by a single lens at large aperture is caused by spherical aberration. This will be found most in evidence in those portions of the picture where the edges of a strong light and shadow meet. It takes the form of a slight band of glare, not unlike that which is caused by halation, which glare exactly follows the contour of the image.

By taking advantage of this optical defect we can impart not only a pleasing quality, but a suggestion of reality to our protraits. It is interesting to place a sitter against a window, and, retiring into the room, to study the almost silhouetted figure through half closed eyes. The figure at first will seem sharply defined, but on close observation it will be found surrounded with a fine line of radiating light, very similar to the spherical aberration effect just mentioned, which, if not exaggerated is perfectly true. It is well known that some of the old masters when desiring that a figure should stand out from its background adopted the practice of painting a very thin light line around the outlines.

There are few rooms in which a good portrait cannot be made, but the most suitable is one with a bay window, or a long narrow room with a high window in the centre. A room with windows at each end is excellent if one of them is partially covered up.

Although innumberable lighting effects can be produced in most rooms, there are three effects which will be found most generally useful. The first of these is the frontal lighting which is so much used by painters. For this the sitter is placed well away from the window with the light falling almost, but not quite, full upon the face. When using this lighting the exposure needs to be well judged, otherwise there will be danger of general flatness. The second is the conventional three-quarter lighting. which gives a stronger effect; while the third is what is known as back lighting, where the greater portion of the face is in shadow with a strong light on the side away from the camera. In very small rooms this is frequently the only lighting possible, as a sufficient distance between camera and sitter can only be secured by placing the latter in the doorway or outside the room altogether.

Unless the room is papered in a light color, it may be necessary to use a reflector to lighten the shadow side of the face; but this should never be made of absolutely white material, as it gives a chalky unnatural appearance.—MALCOLM ARBUTHNOT, in *Photography and Focus*.

PEOPLE WHO WANT PHOTOGRAPHS

THERE are more people, in this day and generation, who want photgraphs than in former years and, while there are many more photographers than there used to be, the demand has increased correspondingly, or nearly so, and it is necessary to interest those who are in the mood to be interested, or to wait until those who are already interested have the money to gratify their desires.

The first question that comes up is the one of the extent of the demand. Whether the number of photographers has increased faster than the demand. This is open to argument, and in some cases it is true that the demand has not kept pace with the output. But, in the general average, the two have kept about on a par, and it is due to local and general financial conditions that one or the other seems to hold the predominant position. If business conditions are good we find the same eagerness on the part of the public that has been a tradition of the days of old, and the volume of business turned out by the photographers of the favored locality compares favorably with the best records of former years. The receipts, too, will compare most favorably, but the net savings may show a decided falling off, and we venture the statement that there are fewer foundations of a fortune being laid right now than in past years. To account for this, however, we have the much touted "high cost of living" and the necessity for the men and women of today to keep up to the style of the neighbors. Formerly the home was the goal. Now one is not prosperous until he has a home and an automobile, and it is the automobile that is the measure of prosperity. But that is beside the question.

The presence of the amateur is

generally considered a large factor in the photographic business of today, and the influence of the hand camera on the business of the professional is one that we have heard argued "loud and long." We have listened and we have watched, and in every statement that has been presented, either by the photographer or the manufacturer, we have tried to eliminate the personal motive and the responsibility of the individual, and estimate the actual effect of the amateur photographer on the business of the professional. We believe that it has its effect. The amateur has influenced the business in both ways. He has been a menace and a help. He has been instrumental in changing conditions and will continue to have the same effect in the future. He has taken a great many pictures that might have been taken by the professional, and the work of an amateur has often been accepted as satisfactory because it was cheaper. In some localities an aggressive amateur has really cut into the revenue of the local photographer, and instances of this kind are indeed aggravating. Furthermore, families will be satisfied with the small amateur prints, and apparently are thus prevented from visiting the professional studio for real pictures.

But we believe that there are some advantages that the amateur has brought about that will ulitmately tell. The attention of the public is directed more constantly toward photographs of all kinds, and the number of pictures made is steadily increasing, which, of course, broadens the market. This will tend to make business when the era of prosperity comes around and people have some money to spend for luxuries. Also the amateur has opened up entire new fields of work, and there are other avenues to revenue beside the portrait end of it. Then, there is the advertising photograph, which is growing in demand constantly, and which is assuming very large proportions. But the effect that the amateur has had that has shown most decidedly is the improvement in the standards of work of all kinds. The "unfinished" print is no longer sought after and the market for poor work is dwindling every day. But the market for skilful and high quality work has not suffered, but is on the increase, and fine work brings better prices than ever and is producing more revenue than ever.

There is no class in the field of possible customers for photographers. The rich and poor, the proud and humble, all are purchasers of photographs of one kind or the other, and the two elements that must be considered are, the kind of pictures that they want, and the amount of money they are able to spend for them. With this idea constantly in view, then every person whom we meet is a possible customer if we can offer just what is wanted, and at a price that he or she is able to pay. Whether it is wise, in times of general poverty, to scale down the price to fit the purse of the individual, or to maintain the price until the desired customers are able to purchase, is a matter of policy and of theory. But we believe that it is wise to hold to the price during a temporary stringency, so that when more prosperous times do come the standard will not have been lowered.

The amateur has made a lot of new customers during the last few years, and these customers are not yet within the grasp of the professional, or at least a large part of them are not. The coming of a period of greater prosperity will bring these customers out into the open, and then the value of the interest that they have aroused in photographs will tell. There will

be found to be more customers than ever before, and the demand will, no doubt, be just as diversified as ever. We were told, not a great while ago, that the trade with foreigners was growing very rapidly and improving in its tone. In the coal fields and localities where immigrants have come in any numbers, they are all crazy for pictures and, while the first demand has been for the very cheapest that could be obtained, there has been a steady improvement in the appreciation of good work, and the prices have improved at the same time. Even the Slav, who has been pronounced the lowest type of laborer, has an active and keen appreciation of a good photograph and he has quickly learned to take good work in preference to poor work, even if he has to pay a little more for it.

The negro is not nearly as productive a field for the photographer as other classes of laborers, and, for this reason, there is not the volume of work done in the South as there is in some other parts of the country. But the commercial advantages of the South, and the opening of new business enterprises, is attracting a larger number of outsiders ever year, and the character of the possible cutsomer is gradually changing as well as the number. The number of people who want photographs is on the increase in the South, and in this fact there is food for hope and confidence that the hard pull that we have been passing through will lead to something more substantial in the way of an increase in business for the professional photographer. A little advertising will not hurt at all. A steady but constant expenditure for some advertisement of the studio, even if only on a small scale, will begin to tell and will help to attract the interest of the people who want photographs.—*Trade News.*

MOUNTING PHOTOGRAPHS

THE actual operation of mounting a photograph, that is to say, the sticking of it down upon the card, is one with which many photographers seem to experience great difficulty, at least as far as doing it neatly is concerned. Simple though such a thing seems, it is extremely easy to make a mess of it; and a number of devices have been brought out at different times to assist the photographer to mount his pictures neatly and well. Nothing is really wanted beyond a little neatness, care, and method however.

The first point to consider is that of the adhesive or mountant. For the purpose of sticking paper to paper or card, paste and gum are substances that are very commonly used; but they must not be employed for any of the ordinary kinds of photograph, that is to say, for prints on p. o. p., bromide, gaslight, or self-toning papers. Both paste and gum are very prone to decompose, to "go sour," and the acid thus formed would have a very injurious effect upon the image, and would be almost certain to cause it to fade very quickly. In the very early days of photography, before this fact was recognized, it was the custom to mount prints by their edges, putting a narrow strip of gum or paste round them; and it is curious to note how often in the case of these early pictures there is a bleached or faded band round them, wherever the adhesive has been applied, while the rest of the print is often as good and stong as it ever was.

It is probable that such adhesives

as those named might be used without harm in the case of platinum and carbon prints, which are not likely to be injured by any acidity in the mountant; but even with them it is best to be on the safe side, and to employ as an adhesive something that is not open to objection.

Paste owes its sticking properties to the presence of starch in the flour, and if paste is made with a good sample of starch, we get a product which will stick as strongly as flour paste, and from which all the other constituents of flour, which are not required for our purpose, are wanting. Moreover, properly made starch paste, if used while it is quite fresh, does not turn acid, and as many years' experiences have shown, is free from any injurious action upon the most delicate prints.

As a good quality of starch is obtainable anywhere, I propose to point out how paste is prepared with it for photographic purposes; although there are now on the market several excellent ready-made adhesives, which are pure in character, and will keep ready for use a long time; so that on the general grounds of convenience and reliability they are to be preferred.

Making Starch Paste

To make starch paste, about a teaspoonful of white starch is placed in a cup and is stirred up with three or four teaspoonfuls of cold water until it makes a thin cream, quite free from lumps. A basin which will hold about a pint is then made hot by being filled with boiling water for a minute or two and then emptied. The starch is poured into the basin and *boiling* water is poured over it, while it is stirred vigorously. At first the water merely thins down the starch, but as more of it is added a change takes place. The mixture becomes suddenly more transparent and very much thicker; and when this change is noticed there is no need to add any more water. The basin at this stage will usually contain something over half a pint of paste.

The starch is set aside to get quite cold, and as soon as it is cold the skin which has formed on the top can be removed, and the paste is ready for use. Paste made in this way will keep fit to use for two or three days, except in very unfavorable weather; but it is much the best only to make a small quantity on the day that it is wanted, and not to attempt to keep any over from day to day. If it is found to contain any lumps, the starch should be strained thorugh a piece of muslin; but if it was properly mixed up with a sufficient quantity of cold water at the start and was well stirred, there will be no necessity for this.

Advantage of Commercial Mountants

If one of the commercial adhesives is used, it is best to keep it well covered up, so that it has no tendency to dry. The great advantage of these preparations is that they contain a very little moisture, and so the prints mounted with them do not have much tendency to curl.

This is one of the difficulties experienced by the amateur, and it is one that when mounting is being done in this way can never be entirely overcome, but it can be reduced to a minimum if the cause of the curling is realized. Paper expands when wetted and if a wet, and therefore expanded, print is fastened down upon a dry, not-expanded, card, the print as it dries contracts, and so pulls upon the card and causes it to curl. The process known as dry-mounting prevents this from happening; but even with ordinary moist adhesives, such as starch

or the commercial mountants, it need not be very troublesome.

The practice of mounting prints wet is, of course, as bad from this point of view as anything can be. The print should be dry, the mountant should be fairly stiff and well rubbed in, and the print allowed to dry under pressure.

Marking the Position on the Mount

Before any attempt is made to stick the print upon the mount, the position which it is to occupy on the card must be ascertained and marked, so that when the mountant has been applied the print can be laid down exactly where it is to remain. It may be taken as a rule to which there can be few, if any, exceptions, that the print should be exactly in the middle of the mount, as regards its two sides. The margin at the top may vary; but as a general rule it looks best if it is somewhere about the same as the margin at the sides. The margin underneath the print, however, should be decidedly wider in every case. If the print is stuck exactly midway between the top and the bottom of the card, it will be found to appear as if it were much nearer to the bottom than to the top, as if it had slipped down in fact, and for this reason the bottom margin should be, invariably, the greater.

In order that the marks may not show in the finished print, they may be the merest pin-pricks, and should be made just where the two corners of the picture come. There is no advantage in marking the place of more than two corners, but to secure the greatest accuracy they should be the two extremities of one of the longer sides of the print.

The mountant must be applied evenly all over the back of the print, without the slightest trace of it getting on to the front. To do this two things are necessary—each print must be laid upon a fresh piece of paper for pasting; and it must not be allowed to shift upon that paper while the paste is being applied, as if it does some of the mountant is almost certain to get underneath. A pile of clean pieces of newspaper, a good deal larger than the prints, should therefore be arranged; and one of the dry prints being placed, face downward, on the top sheet, the adhesive is well rubbed in.

Nothing Better than the Fingers

Some photographers use a stiff brush for this purpose; but a good many find nothing does so well as the finger tips. They are rather wasteful of the mountant; but they have the great advantage that one can feel directly when a sufficient quantity of mountant has been rubbed in. Particular attention should be given to the edges and the corners, the mountant should be applied there both first and again at the finish, to counteract any tendency it may have had to dry there.

The print is then picked up, its two top corners are laid upon the guide marks on the card, and it is allowed to drop into place. No attempt must be made to shift it on the mount, or the mountant will show beyond the borders of the print, and is almost certain to leave a mark. As soon as the print is down, it is covered with a clean piece of paper and pressed down into position, either by means of a roller squeegee or by rubbing it with the finger tips, starting from the centre and rubbing outward, so that there may be no fear of creases. Here again special attention should be given to the edges and corners, rubbing them firm y down, through the paper, when the rest is finished.

Removing any Mountant

The paper may then be lifted, and the print should appear quite flat, and free from any traces of adhesive either on the face of the picture or on the mount. If there is any, it may be removed by a quick wipe with one corner of a little piece of sponge wetted with cold water; but it is very much better to take the utmost care to avoid any necessity for this, as it is very difficult to prevent it from showing.

A clean piece of paper may be put over the face of the print, and it is then put away under gentle pressure for as long as may be convenient, the longer the better; as if it can be left like that for a few days it will come out practically flat and should remain so.—R. C. B., in *Photography and Focus.*

FLASH-POWDER ACCIDENTS

BY HENRY LEFFMAN

THE death of Mr. Buchanan, some months ago, by explosion of flash-powder, forms a sort of closing episode to a series of such accidents with which he had more or less concern. I do not know whether Philadelphia has had more than the average of accidents of this character, but I know that during the last quarter century a considerable number of flash-powder explosions have occurred here, attended by loss of life and destruction of property. As I was an expert in several of these, I have thought it worth while to place on record some of the details.

I have no exact recollection of dates, but it is about twenty-five years ago that the first accident of which I have distinct knowledge occurred. An employee in a drug-grinding establishment was killed by the explosion of the mixture he was preparing. Suit was at once brought by one of his survivors, and I was asked by the attorney for the plaintiff to act as expert. The preparation of the powder was undertaken not long after by a firm of manufacturing pharmacists, and a youth in its employ was so badly burned by a premature explosion that he died the next day. Suit was brought at once by the father of the boy. Either by the uncertainty of our legal methods or because the attorney for the plaintiff in the first case—a prominent politician—secured delay, the boy's case was tried first, although later in occurrence. It was, of course, an advantage to an attorney to have his own case deferred, inasmuch as the subject was new to both courts and experts, and much was to be gained by experience.

I was examined as an expert at considerable length in the boy's case (Cruice *vs.* Wiley & Harris), the especial points brought out being that the mixtures are inherently dangerous and are not pharmaceutical preparations. The latter point was important because if the injuries to the workmen had occurred from accidents in the regular work, the employer's responsibility would be much less than when he had caused work to be done that was not part of the business for which the workman was engaged. In answer to a question from the attorney for the defense, I stated it to be my opinion that a person who was engaged regularly in making such powders would not become careful, but rather more indifferent to their dangers.

The investigations brought out, of

course, the composition of the powders. They contained powdered magnesium with well-known oxidizing agents, such as potassium permanganate, potassium chlorate, potassium dichromate and picric acid. Powdered aluminum was also used. Although it might seem from a theoretic point of view that these mixtures would be rather low explosives, yet they are decidedly powerful, and liable to be exploded by conditions that do not affect gunpowder or even guncotton. Their danger increases with age. This has been supposed to be due, among other conditions, to the reaction of the picric acid with the magnesium, by which a picrate is formed. It is well known that picrates are fulminating explosives.

The trial of the case above noted had a fearfully dramatic termination. In the course of the afternoon, while the defense was being heard, a young man who was in the employ of the firm was testifying. He was rather "flip" in his manner, and among other statements said that he would not hesitate to make up the powder at any time, and had no fear of it. The plaintiff's attorney asked him if he had anyone dependent on him. He replied that he had a mother to support. The attorney said, "Well, with your views there is likely to be another flash-powder accident before long in this city." When the court adjourned for the day, the head of the firm was so impressed with the dangers of the powder that he made up his mind to have none in the factory. He had ceased making it after the accident, but a pound or so was on hand on one of the upper floors. At the factory he and the young man who had been on the stand and two other workmen were on this floor when Mr. Wiley picked up a bottle containing some of the powder and said, "I will get rid of this at once." No one suspected any danger and Mr. Wiley turned on the tap and began to sift the powder into the sink. One of the workmen went down stairs just as this act began. He had reached a lower floor when an explosion occurred. The windows of the upper floor were blown out, and when persons reached the place it was found that all three men were dead. Mr. Wiley's body was dismembered. It is supposed that the dry powder absorbed water and produced sufficient heat to ignite the remainder, but the explosions of these mixtures are by no means easy to explain.

From information kindly given by Mr. John Bartlett, so well known for his survices in promoting the progress of photography, I learn that among the earliest publication in this country of formulas for flash-powder was a communication made about 1888 by Mr. Piffard before the Camera Club of New York City, in which he freely stated the formulas and hence American manufacturers took up the matter.

Mr. Bartlett, in association with some other persons, also investigated the problem and at his suggestion red (so-called amorphous) phosphorus was mixed with oxidizing agents of lower power than those first used. Efforts were also made to incorporate substances which would yield a larger range of light waves, and to this end a mixture of red phosphorus, barium nitrate, strontium nitrate, sodium chloride and magnesium powder was made. The sodium chlorid was found to cause the mixture to cake and it was omitted. Even then a slight caking of the mass took place and Bartlett suggested the use of a small amount of aluminum powder, which was effective.

The material so prepared was an efficient illuminating agent and was extensively used. It was, indeed,

covered by patent, but by a trick Mr. Bartlett was deprived of his share in the advantage of this. Bartlett tested the powder under friction and found that it did not ignite. Nevertheless, it had considerable destructive power, and not long after its manufacture on the large scale began, Mr. Alexander Hemsley, the owner of the patent, was killed by an explosion in the place of manufacture.

The manufacture was afterward carried on in Eleventh Street, and here also an explosion occurred which resulted in loss of life and destruction of property. The last fatality so far recorded is the death of Mr. Buchanan, a few months ago. He was making a powder, termed by him "Luxo," which was substantially of the composition devised by Bartlett.

Flash-powder has therefore been responsible for nearly a dozen deaths in Philadelphia, with property damage amounting to thousands of dollars. Such results naturally led to greater care and to investigations to secure safer mixtures. Among the latter form was the plan of using magnesium powder alone, throwing it through an alcohol flame. It appears, however, that this is not so satisfactory as a self-burning powder.

Of late years complicated formulas have been devised, and among other substances the nitrates of some of the rare earths have been largely employed. These compounds, as is well known, yield oxides that have high illuminating power, hence a mixture of thorium nitrate and magnesium powder will not only be combustible, but will emit a light of high actinic value.

A German patent, issued April 20, 1902, gives metallic cerium, thorium and zirconium and their carbids and phosphids, in substitution for magnesium and aluminum. These rare metals can be obtained by electrolytic methods.—*Journal of the Photographic Society of Philadelphia.*

NEW BOOKS

Marketing Photographs for Publication. Showing the Possibilities of Making the Camera Pay by Selling Photographs to Newspapers, Magazines, etc. With a List of Buyers.

Here we have the title and scope of "The Photo-Miniature No. 120," July, 1912. A point well worth observing is served when the author says: "The photographer for publication is apt to think that all his ambitions would be realized if only he could journey to foreign shores or distant corners of our own country in search of material. The real triumph is that of the photographer in this field who makes the most of what might be termed his natural opportunities, and who utilizes the material that lies ready at hand in his own district." A valuable feature of the book is the list of publications which buy photographs and their requirements. It offers many opportunities to the camera owners with an eye to business.

We are advised by the Utocolor Co., that Dr. F. Limmer has just published a monograph entitled, *Bleach-out Process and Utocolor Plates*, on which subject he is an authority. The monograph treats in simple and comprehensive language of the possibility of direct photography in colors by means of pigments, with special consideration

of Utocolor papers, and will no doubt be highly interesting to all who are practising color photography. The book can be obtained from the Société Anonyme Utocolor, La Garenne, Colombes, Paris, France. The price, post-paid, is sixty cents.

TRADE NOTES

MESSRS. ROSS, LTD., the well-known lens-makers of London, have just placed on the market a new telephoto lens, which they have named the "Telecentric." It is a lens of entirely new construction, and is free from the softness and diffusion of image so noticeable when endeavoring to focus sharply lenses of a similar type. The Telecentric gives an image about twice as large as that given by an ordinary lens requiring the same bellows extension. It is made in two series, *f*/5.4 and *f*/6.8. The definition and brilliancy at full aperture are quite equal to that of the most perfectly corrected modern anastigmats. The Telecentric is fully corrected and is absolutely free from spherical zones, and the negatives taken with it are perfect in detail. It is an ideal lens for sporting events and very suitable for portraiture. We have before us a 5x7 print of a full length portrait of a lion cub, made with a Telecentric lens, 17 inch focus, *f*/6.8, with the subject twenty-five feet from the lens and an exposure of one-twenty-fifth of a second, which effectively demonstrates that subjects which cannot be approached too closely can be reached from a distance and without any sacrifice of critical defining power. GEO. MURPHY, INC., 57 E. Ninth Street, New York, is the American agent for the Ross lenses and will be glad to send detailed circular of the new Telecentric to all interested.

"ARTATONE," a sensitized Japanese tissue, producing rich and striking tone effects. Processed by A. E. JACOBSON, New York. HERBERT & HUESGEN CO., 311 Madison Avenue, New York, trade agents. Prints on Artatone are produced in the simplest possible manner. Printing until deepest shadows show, washed for five minutes in running water, and fully developed, toned, and fixed in a bath of hypo, one ounce to water sixteen ounces. The prints are left in the hypo bath from three to ten minutes, according to tone desired—short immersion producing a rich sepia and the longer immersion a beautiful brown, with all the shades between. A still larger variety of tones can be obtained by placing a delicate colored paper between the finished print and its mount. Photographers in search of a novelty would do well to get a package from their dealer and give it a trial.

THE photographic industry is booming in Rochester, and the DEFENDER PHOTO SUPPLY CO. have just let contracts for an important addition to their already large plant on Driving Park Avenue. The new building, which will be 385 feet long, is to be devoted entirely to the manufacture of sensitized goods, and will contain the latest devices not only for producing a superior product, but also for the health and welfare of employees. The architect is Jas. R. Tyler, a specialist in modern factory construction. When completed the new factory will add 25,000 square feet of floor space increasing the total floor space by one-half. Vulcan dry plates, now being manufactured at the Company's Philadelphia factory, will be made in the building. Steel lockers for employees, photo-pure air for the dark rooms, a modern heating and lighting plant, and a fully equipped hospital room will be installed. The Defender Company is forging ahead these days.

PHOTOGRAPHERS in search of lens bargains are directed to the advertisement of A. MCFARLIN, Elmira, N. Y., elsewhere in this issue. Mr. McFarlin has a battery of a dozen or more lenses and is offering four of them for sale at attractive prices.

IMPERIAL PLATES, manufactured by the Imperial Plate Co., of London, and for which G. GENNERT, New York and Chicago, is the sole United States agent, have a great reputation for speed, latitude, and fineness of grain They come in seven brands, for as many varieties of work, and G. Gennert is anxious to have you test their qualities at his expense, and you are invited to give them a trial.

DALLMEYER STIGMATICS have a world-wide reputation for design, correction, and construction. It is a lens highly recommended for general photographic work, being four lenses in one. The Series II, *f*/6, Dallmeyer Stigmatic is a universal triple convertible anastigmat, giving exquisite definition over a large plate at full opening. It is suitable for every requirement of photography. Ask your dealer for particulars, or BURKE & JAMES, INC., 240 E. Ontario Street, Chicago, the American agents.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor
MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK
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EDITOR'S TABLE

THE July meeting of the Southern Tier Section No. 10, Professional Photographers' Society of New York, was held at the studio of H. M. Benner, July 9, at Hammondsport, N. Y. Chairman A. B. Stebbins, of Canisteo, advises that a most enjoyable and profitable day was spent. The long program began with a reception at the Bennet studio and included a business meeting, exhibition of prints and negatives made by the members, a motor-boat ride on Lake Keuka, a basket picnic lunch, field sports, and aeroplane flights, so that a full day was put in offering ample opportunities for social and friendly intercourse that must tend to betterment of the relations between photographers in that section.

SOME people are born "grouches" and "grab-alls." At a recent meeting, the Eastman Kodak Co. set aside a portion of its earnings to be paid to its employees as a profit-sharing dividend. Considering the consistently bountiful dividends paid to stockholders, you would not expect any objection on their part to this recognition of the working force, whose loyalty and coöperation helps to swell the returns from capital invested. A suit, however, has been commenced, by a disgruntled stockholder, and the Eastman Kodak Co. must go to court to defend a praiseworthy and generous action.

FROM the very fine collection of pictures hung at the National Convention, all of which had passed a selecting committee, pictures by the following photographers have been selected for reproduction in the *Association Annual:* Gertrude Käsebier, New York; Nancy Ford Cones, Loveland, O.; Jane Reese, Dayton, O.; Imogene Cunningham, O.; Dudley Hoyt, New York,; E. E. Doty, Kajiwara, St. Louis, Mo.; J. H. Garo, Boston, Mass.; Pirie MacDonald, and Victor Georg Sprinfield, Ills. Geographically it will be noted that Ohio and New York are each represented by three pictures; Michigan, Missouri, Massachusetts, and Illinois secure one apiece.

IN comparison with the above selection made by the Hanging Committee, composed of three photographers, it is interesting to note the selection of the twelve best prints by Sadakichi Hartmann, the official critic engaged by President Larrimer. His list follows: Pirie MacDonald, New York; J. Edward Rosch St. Louis, Mo.; Lerski Studio, St. Louis, Mo.; Victor Georg Springfield, Ills.; Fred J. Feldman, El Paso, Texas; J. Mitchell Elliott, Philadelphia; Kajiwara, St. Louis, Mo.; Bradley Studio, New York; C M. Hayes, Detroit, Mich.; J. E. Liffin, Wheeling, W. Va.; J. A. Bill, Cincinnati, Ohio, and Geo. Wonfor, Camden, N. J. It will be noted that the Hanging Committee was chivalrous to the extent of placing four women in a list of ten names, while Hartmann sticks to men exclusively.

NOTWITHSTANDING the great success of the Philadelphia Convention, we think that a lot of visitors realized that a big city is not an ideal meeting place for a convention. In the great throngs that usually crowd the streets the conventioner loses his identity and becomes one in a thousand. He begins to feel that he is having a vacation by himself, and to get the convention feeling he must stick closely to convention hall or the headquarters hotel lobby. A convention likes to feel that it owns the town, and it is good for its members to meet each other at every turn when they take their walks abroad. Personally, we would like to see the convention restricted to cities of less than a hundred thousand population.

HAVE you done anything yet in the matter of coöperating with the big national advertising campaign being carried on by the Eastman Company for the benefit of portrait photography? If not, you would do well to look into the matter right now. The advertisements have been appearing for some months, their accumulative effect will begin to tell, and thousands of people who have rarely, if ever, been in a studio are going to have their portraits made. You can get your share of this new business if you only stir yourself. You have to let the people know who, where, and what you are. People returning home from a vacation with renewed health and vigor are in a receptive mood for your campaign. Begin now.

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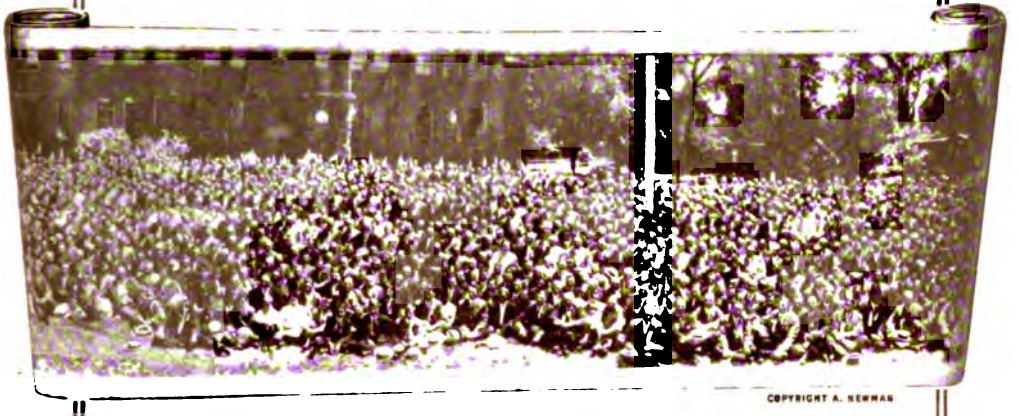

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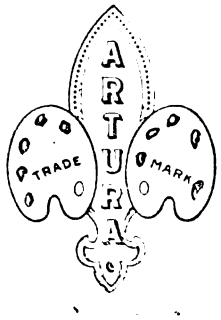

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EASTMAN KODAK COMPANY,
ROCHESTER, N. Y.

All Dealers.

Vol. XLIX ÷ ÷ ÷ ÷ No. 669

SEPTEMBER, 1912

WILSON'S PHOTOGRAPHIC MAGAZINE

DEVOTED TO PHOTOGRAPHY MONTHLY: ILLUSTRATED

$3.00 A YEAR

SINGLE COPY, 25 CENTS

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OUR PICTURES:

Frontispiece and Eight Engraved Supplements from Photographs by The Hoffman Studio, Philadelphia, Pa.

EDWARD L. WILSON
122 E. 25TH ST : NEW YORK

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FAITH & FACTS

may both be important factors in deciding the merits of a photographic paper, but it is *safer to know* than to believe. *Know then* that

CYKO PAPER

is used by most of the real masters of photography.

CYKO PRINTS contributed by these masters formed the most artistic and educational feature of the Convention of the Photographers' Association of America, held in Philadelphia, Pa., the last week in July.

They were all exhibits by artists who are actually using CYKO in their daily work.

Each grouping of CYKO prints was so different in expression, showing such distinct personality, that the wonderful qualities of CYKO paper were never so impressively presented.

For *the proof* of these statements see issue of August PORTRAIT for "What Many of the Leading Photographers Said About the CYKO exhibit."

Ansco Company
Binghamton, N. Y.

FIG. 8. DECORATIVE STUDY

The Hoffman Studio, Philadelphia, Pa.

Illustrating Sidney Allan's Article

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. XLIX SEPTEMBER, 1912 No. 669

CHARGE BY THE PRINT

In the very interesting paper read by Pearl Grace Loehr, reprinted elsewhere in this issue, she advised beginners in photography to "charge by the print" and went on to remark that "a price by the dozen, the half dozen, prices on extra negatives, etc. will confuse and you will be the loser. Make a price on, say, three from one negative, and let it always be the foundation order; then so much a print from any negative."

We are in hearty accord with Miss Loehr's suggestion, and would like to see it much more generally accepted. It is true, of course, that many photographers do charge "by the print" but they are the exception to the "price per dozen" rule, which has prevailed in professional photography from the beginning.

Professional photographers with any ambition at all are anxious to have themselves and their profession taken more seriously. One method that will go a long way toward gaining additional respect is to come out of the huckster class and talk and quote prints individually. A dozen or two of this size and a dozen of that size savors somewhat of the wholesale. The individual print should be the talking point. Talk about prints by the dozen and your client conjures up a vision of an assistant turning a crank and producing prints like a machine turning out visiting cards while you wait.

It is quite true that this is exactly what does take place in postcard printing. For the class of people that want postcard portraits that is about the way they want them. They buy them by the dozen, stick a penny stamp on them and consign them to the tender mercies of the post office officials.

But with the vast army of well-to-do, intelligent people, a more artistic method will appeal more to their sense of the fitness of things.

The dozen idea is only a survival of a habit of an earlier and cruder time. Possibly the photographer who quoted the dozen price for the first time had just bought a dozen of eggs. Because the manufacturer packs his dry plates in boxes of twelve, it does not follow that you must pack and deliver prints in the same manner.

A satisfactory and pleasing picture is what you strive to produce, it is not made more satisfactory by being reproduced six, twelve, or a hundred times. Unless you satisfy and please your sitter you are not going to be satisfied

yourself. When the satisfactory print is produced it is valued at whatever your price may be. It is then up to your customer to decide how much they are prepared to spend on duplicates for their friends and relatives. The price sounds very much less formidable by the single print than by the dozen, and human nature is such that the individual who would balk at paying thirty-five dollars for a dozen photographs, at one order would spend considerably more if left to order in twos or threes at three dollars per print.

To take care of those particularly mean people, and fortunately they are very few, who would not order beyond the initial print, Miss Loehr's suggestion of a foundation order of three prints from a negative could be acted upon. This rule could be urged at the discretion of the receptionist.

For special purposes where a large number of prints were required, a special price would have to be made on the quantity basis, but many photographers who are selling photographs by the dozen could sell by the print and increase their bank accounts and their standing in the community.

A DANGEROUS BILL

THROUGH the misguided energy and bad taste of some Washington photographers, who photographed any Tom, Dick, and Harry apparently shaking hands with the President of the United States, the following severe and uncalled-for Bill to regulate the use of photographs is proposed. The Bill was introduced by Senator Lodge on July 29, and was read, etc. We print it in full. Read it carefully, especially Section 2.

"A Bill to prohibit the making, showing, or distributing of fraudulent photographs," was read twice and referred to the Committee on the Judiciary.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it is hereby declared unlawful for any person or corporation to deposit in the mails of the United States, to be sent or delivered by the post-office establisment of the said United States, or, within the District of Columbia or any Territory or dependency of the United States, to make, sell, publish, or show, or to have in possession with intent to sell, publish, mail, or show, any fradulent or untrue photograph, or picture purporting to be a photograph, or purporting to be a copy of a photograph, of any living person without such person's consent, or if a minor, without the consent of his or her parent or guardian. It is immaterial for the purposes of this Act, whether such photograph or picture shall have been made as a composite of two or more actual photographs, or by using a picture as the background of a photograph, or otherwise. It is a violation of this Act if it either does not represent, or substantially misrepresents, an actual occurrence.

"SECTION 2. That it is hereby declared unlawful for any person or corporation to use in interstate commerce, or within the District of Columbia, or any Territory or dependency of the United States, for advertising purposes or for the purposes of trade, the name, portrait, or picture of any living person without having first obtained the consent of such per-

son, or if a minor, without the consent of such minor's parent or guardian.

"SECTION 3. That any person or corporation violating Section One or Two of this Act shall be guilty of a misdemeanor and liable to a fine not exceeding one thousand dollars, or to imprisonment not exceeding six months or both.

"SECTION 4. That any person thus fraudulently and untruthfully represented, or whose name, portrait, or picture is thus used for advertising purposes or purposes of trade, without his consent, may maintain an action in equity in any district court within whose jurisdiction the violation of this Act occurred, to prevent and restrain any further violation of this Act; and may also recover damages in such suit, or in a separate action at law, for any injuries sustained by reason of such violation."

The first paragraph is to prevent the production of such untrue photographs as mentioned above, and it puts a difficulty in the way of the production of those harmless, if somewhat foolish composite pictures common to all resorts.

It is in the second section where the danger lies. The enactment of the law as it stands would render photographers and publishers open to continual blackmailing suits and would reduce very materially the number of pictures available for studio advertising, photographic exhibitions, and conventions. A similar law was in force in the State of New York, and worked such a hardship upon the photographers that they were able to show just cause for its amendment, which was accomplished recently.

The Bill will come before Congress next December. We would urge every photographer to take the matter up at once with his Senators and Representatives, and endeavor to secure their pledge to oppose the further passage of the Bill. Take the matter up personally if possible, if not, then write and make a vigorous complaint, and do it now.

The evil complained about can be surpressed effectively without enacting a law that would work a serious hardship and injustice upon every photographer in the country.

HOME PORTRAITURE*

BY PEARL GRACE LOEHR

IN coming before you to discuss the matter assigned to me on the program, it seems well to state the limitations to which it is confined. In this talk I am speaking to some person who, desiring to enter home photography, needs certain information concerning it as a business, to aid her to make a decision to enter the field or to remain where she is. It is such information as I needed when I made the venture, but which I could obtain from no source, and it is given to you with all the limitations.

What such a person needs to know is: (1) What is home photography as distinguished from studio work? (2) With what equipment can one venture to begin a business? (3) Is it a work for a woman? (4) What does it promise as a business venture? The amount of capital required. Time it takes to establish a business. Method of securing customers.

* An address before the Women's Federation of Photography at Philadelphia.

Turning to the first point, home photography is that branch of the work in which you go out to the business instead of the business coming to you. You go to the home and there photograph persons amid the surroundings to which they are accustomed. You take your outfit and go into a house you have never seen, and the keynote of your work is your ability to adapt yourself to the unseen force which meets you upon crossing the threshold of that home.

In studio work the people come into the photographer's working place, thus making the subject adapt herself to your surroundings, which are new and strange to her, thereby causing a reserve and a stiffness on her part. This gives the photographer such dominating influence that it often entirely submerges the individuality of the subject, and as a result for your work you have a technically fine negative of a beautifully posed but characterless figure.

In home work, the adaptation to surroundings is wholly on the part of the photographer, and because you have entered their homes, on their invitation, makes the subjects meet you with a cordial unreserve which, in one sweep, throws open to you the *real self*, such as hours of studio work can not bring forth.

In the studio there are brought together certain chairs, tables, draperies, backgrounds, and other studio accessories. The light is planned to meet your needs and all things are arranged according to your direction. Into this atmosphere which you have created comes your subject, and she is asked to be natural and to feel at home. Naturalness and ease are essential in order to obtain a characteristic portrait, so why not go into the subject's home and in the midst of the atmosphere created by that subject, in the accustomed chair, with the favorite work, picture her, because there she will unconsciously give forth to you, in freedom and unrestraint, her individual characteristics? In other words, the people and their homes have dominated you, and you, the photographer, forgetting the tools with which you work, will make of those people *real portraits*, revealing them as they are.

In the studio you know your light. You know its changes for every hour of the day, you know that certain handling of screens and backgrounds will give certain effects; in fact, you know everything you can do is done with the light and the handling becomes almost automatic.

Not so in home photography. Realize that home portraiture is a distinct class in photography and has its own charm in individual lighting. Being so we should strive to work for the interesting things that are there, and to let the conventional light remain in its place in the studio.

The light with which you have to work may come from one window, it may come from many windows, on one, two, or three sides. The room may be light and airy in hangings, or it may be dark and somber. This situation, be what it may, you must train yourself to grasp. It is no easy problem. Actual experiment alone can give you the knowledge in handling the home light. No two homes are alike and conditions are often encountered that almost baffle the experienced worker.

Sometimes the flash must be used as an auxiliary. In working with the flash, a few trials will show that placing it near the subject will give rounded lighting, while further away gives soft, flat results. Many workers prefer to use it in a darkened room,

but the most interesting of all is to use it only as an aid in making instantaneous exposures with daylight lighting. It is well worth while to make a study of the flashlight for the interesting things it can do.

To be a home photographer means work. There is an engagement, possibly for out-of-town work. This means early rising, with heavy grips containing your outfit, you take street cars, subways, ferries, and catch a seven o'clock train.

Perhaps two hours later you enter a strange home. In that first entrance you must grasp what you have to battle for or to battle against. Every condition may be against your getting the proper light upon the spot which you want for your subject. Furniture must be removed, pictures taken down, if they interfere; you are taken to the nursery to inspect and to pass judgment upon the dearest baby in all the world; you are asked to select the dress not only for the baby and big sister, but for the mother as well; you are shown father's pictures, great-grandmother's portrait, some heirloom handed down by ancestors which may be used as an accessory, and each moment you are getting closer and closer to the real home life of the people.

You may have sittings from each member of the family, and possibly each in a different room, "upstairs, downstairs," while you have been working. The samples you have taken with you have so interested the mother that she feels that she must do her friend and neighbor the favor to let her know what a fine opportunity is open to her to get their baby's picture, and the neighbor, and possibly a number, come in, view the samples. Mrs. Jones decides that while you are there, and there is plenty of time, she will have the baby photographed, and you go into another home, possibly more that day. Late that night, even at midnight, you reach your home, and thus end one day of home photography.

Equipment

You say, "I believe I could do that, but what equipment must I have?" The equipment essential to conduct a business, I found, much to my surprise, to be very simple. It can be as reasonable or as expensive as the worker wishes to make it. There are now home portrait outfits which make it very simple for the beginner, but I am going to tell you what I worked out four years ago and am still using.

First, of course, comes the camera. This should always be one doing 5 x 7 plate work. It can be an inexpensive folding box camera, or what has proved most satisfactory to me, a 6½ x 8½ view camera. This camera can be fitted with a special back for 5 x 7 work, thus allowing a larger size to be made. You will find a camera of this size is preferable to a smaller, because it carries with it a business-like air, which seems to impress people that you are really professional.

Any camera selected will have to be fitted with a lens, and here again the element of cost enters. There are many fine lenses advertised for home work, and the only thing to do is to decide on the amount you can invest and get the best you can find. In making a selection, bear in mind that there are several things a lens must do. It must be quick and it must be wide-angled. Perhaps the most exasperating thing in all home work is managing the tripod. But there is now a home portrait camera stand concerning which too much cannot be said as to its adaptation to

a pressing need and for ease and satisfaction in handling.

With this outfit some good materials should be carried for plain backgrounds. Many workers do not care to bother with this item, but expect to find in the home things to help them out. But it means much for the success of your work to go thoroughly equipped and not to borrow even so much as a sheet, two of which should be carried, not only for backgrounds but to be used, when needed, as reflectors. Art linens and many things in dress goods, in soft greens, browns, and grays prove most satisfying as to tone, and by sewing small leaden weights on the lower edge you will always have a well-stretched background. A camera, a tripod, and a background give us the needed equipment for home work with the "grown ups;" but what of the little ones upon whom our business really depends?

For them we have yet to add the most important thing, the thing that stands for success in children's work in home photography—the flashlight. In the freedom of its own home all the cute and cunning ways of the child are before you, and it is only with the flash that it can be followed about and caught in unstudied naturalness while doing, in its own way, the things it enjoys.

Your flash lamp must have an umbrella or other arrangement for diffusing the light. It must be connected to the camera in such a way that one pressure of the bulb works the shutter and ignites the flash. Because of the difficulties in home lighting and the use of the flash, I think you will find Orthonon plates will give the best results.

Possessed of the equipment to carry with you, then come the appliances at home. These are so simple that you ofttimes wonder why more women do not take up a work that can turn out such fascinating pictures by way of broken pitchers, the kitchen, and the bathtub.

The Photographer

But for a woman to secure this outfit and make a successful business of home photography requires more —here the personal equation enters into the question. An amateur cannot, with such ease, enter the profession. She who would undertake this work must have a knowledge of the processes in every department of the work; therefore she must be a professional, or there must be acquired accurate and sure knowledge under the direction of professional workers who know, and knowing, can guide the beginner through all the stages to the point when she has become an intelligent worker in the profession, from putting the plate in the holder to the finished picture ready for delivery.

As a supplementary training for the home worker and all workers should be the study of art—the study thought usually to belong only to the painter or to the sculptor. All realize that the future success of photography will rest upon those who have the most intimate knowledge of art in all its forms. Actual work in drawing and in composition should be taken up, if possible, for the training and ability it gives in self-expression. To every one is open the study of pictures, and good books on what makes a picture and how to study a picture are in every library, and are not too expensive for even a struggler to own. Too much cannot be said of the influence upon us of the wonderful pictures of worldwide fame, but in our enthusiasm for the perfections

of these masterpieces we photographers are liable to make one mistake. Study of pictures does not mean to memorize them for composition, and with the camera make reproductions.

The study should bring to us not only the knowledge of composition and of color, but the inspired personal feeling of the painter—the things suggested and left for us to carry on, the thing that has made the picture live, because each one studying can fill in the unsaid. This study of art, as I mean it, is not an end, it is only a means to your own profession, photography. When the facts for which you sought the study of art, or pictures, have become so intimate a part of your mental stock in trade that they are a part of you—forget each picture and its composition as completely as if it had never existed, and taking your subject in hand, express what is within you with freedom. Reach the real personality of the subject, not by poses, but by that thing for which we can find no formula—your own personality plus that of the individual before you. Be true to your own feelings, and if you want to do a thing out of the conventional manner of doing, do it with such sureness and such knowledge of the fundamental points that make a picture, and of the photographic materials you handle, that what you produce will stand respected though it be faulty.

Fortunately, the degree of merit reached by camera craft today shows that the highest qualities of art may be obtained by what was once considered a machine of purely utilitarian value, so, if we fail to reach an art, it is because of our own limitations and not the fault of the tools with which we work.

To the technical knowledge necessary for the photographer must be added such knowledge of business as will enable one to handle her own business. To this she must call all the culture her good fortune and ambition have enabled her to acquire, and a wide general knowledge, for the intimacies necessary in successful home photography make it needful to know something of any subject in which the patron is interested.

Woman's Work

Is it a woman's work? Preëminently so. Women have a special gift to see, to grasp, and to enter into the intimate affairs of the home life. Under no studio conditions is the personal side and character of the worker so put to test as in home work, and it is this wonderful play of emotions and feelings in both the photographer and the subject that makes home work so abundantly repay for all the patience and all the intelligence and all the skill we put into it.

Home Photography as a Business

But, you say, pleasure and interest in a profession is all very well, but what of it as a means of livelihood? Is it a safe business venture from the bread and butter side of the question?

The actual capital invested can be so small that any woman equipped with the technical knowledge can make the effort and establish a paying business of her own; but because it is so easy and so inexpensive to begin proves often the very cause of failure.

The initial expenses are easy to figure: The lens, camera, tripod, flash lamp, and backgrounds. The home stock of chemicals, plates, papers, and mounts. The work can be done

in the woman's own home, saving studio rent and fittings.

But this is almost balanced by the cost of the trips of yourself and your assistant in going far and near to reach your subjects. Then you have the added expense of placing the work before the public and in reaching customers. These expenses require that you have some financial provision when you begin, that your work may not be crippled.

It takes time to put the business on a paying basis. The amount of time will depend upon the photographer, the locality, and the grade of work done. Some workers tell us they have been able to make expenses from the start. By expenses, I mean not only that of carrying on the business but of living as well. These workers have been most fortunate, indeed—exceptionally so. I think you should face the fact squarely that to most women entering the work—if she is entirely dependent upon the business for her income—there will be an indebtedness at the end of the first year, the second year will see its ups and downs and be a struggle to make ends meet; but the end of the third year should see her with things squared, and the fourth year with means to meet all expenses at the first of the month. This is, I believe, a safe estimate of the length of time to put the business upon a paying basis.

As mentioned, the location enters as a factor. In a small town, where you can be known in a short time, results are quicker; but if you begin in a large city, there must be a preparation for at least three years of financial struggle. I have dwelt upon this because I feel it is our duty as workers to give to our sisters wishing to start such work a sane, honest, truthful statement of all the things before her, that she may be adequately prepared for the undertaking.

Being professionals, I speak to those to whom the important thing would not be to find money for the outfit, nor yet the financial aid to stand behind while you are struggling to get a foothold in the business, but you may like to know how to get customers.

Reaching Customers

A business, by women, for women and children in the homes, carries with it a peculiar, intimate charm and cannot be dealt with in the conventional manner of business getting. Advertising schemes are not for the home worker, they are of no avail to the woman wishing to reach homes of wealth by the merit of her artistic work. Each woman must get ideas and work them out as best suits her class of customers and all the surroundings of her business. My experience has proved to me that the best way is the direct approach to some woman through a woman who is her friend. If the friend will speak to your desired customer personally, your way is open. Simply call her by telephone, give your name and business, by whom introduced, and state your desire to show her samples of your work.

If the friends does not speak personally, it is absolutely necessary to have the visiting card of the woman introducing you. This direct way carries you not only past the servants, but the woman has been approached in such a way that she must see you or be discourteous to her friend. Once past the barriers, then it is dependent upon your personality and upon the character of the work you have to show as to the interest she will manifest.

In this way you must begin with the sure knowledge, never losing sight of the fact that your capital is names, and more names. Every woman to whom you gain access must feel so kindly toward you that she is glad to pass you on to her friends. Thus you go on, with an order here and an order there, until one day you find yourself in possession of a business; a business with a solid foundation, for it has been built for you by the kindly human interest of people, based upon the merit of your work and your personal worth. Here, just to show you how small a beginning may be in home photography, I want to tell you that my business started with six letters of introduction, and by this simple method, although a stranger in a great city, I have built up a business.

Home photography is an all-the-year-round business. For some unaccountable reason, unless we name it human vanity, there will be a steady business for nine months in the year. Money panics and presidential campaigns seem to have left little disturbing influence. During the three summer months when people leave town, follow them. Go to some wealthy summer place armed with introductions from pleased patrons, and by using the same methods of business getting you will find the summer a veritable harvest time—with financial results even greater than what we have come to associate with Christmas work.

A large per cent. of your business will come from out of town. People do not like the trouble of bringing children to the city and into the studio. In these cases the time and expense to get one order may be made to cover the cost of several by arranging with the customer to secure you orders among her neighbors and friends, or to give you the names and let you work up the orders.

A seemingly small thing, but one you will find of greatest importance in preserving harmonious relations with your patrons, is the question of price. Have a simple price, one that can be readily understood through correspondence by even the most unbusinesslike of women. Make only two sizes, a small and a large. Charge by the print. A price by the dozen, the half dozen, prices on extra negatives, will confuse, and you will always be the loser. Make a price on, say, three prints from one negative, and let this always be the foundation order. Then so much a print from any negative. All large-sized pictures should be priced by the print only. People like to be able to order just the number they think they want, and the price of three prints will look so altogether innocent, they will not realize the lure you have set.

The crucial point in the business is yet to come, and that is showing the proofs. You must see the customer after the sitting. The proofs must be accompanied by one who can tell how the print will differ from the proof sets. If this is not done, not only will you lose the order as to its size, but you have missed the opportunity at the moment when the woman's personal interest is warmest, and when it will come nearer to you and to your business than at any other time. It will be through the proofs that her enthusiasm concerning your success will reach its height.

I have been giving you the facts that I, from personal experience, have dug from the quarry of human life, and I have pinned my faith to home photography as a business of pleasure and profit for women.

A NEW INTENSIFIER FOR PROFESSIONAL WORK

BY RICHARD PENLAKE

DURING the latter part of the year 1911, those indefatigable French investigators Messrs. Lumière and Seyewetz invented a new physical intensifier consisting of mercuric bromide, metol, and soda sulphite, which appears to be far more important and serviceable than was at first thought. It was not, in fact, intended originally for strengthening ordinary negatives, but was introduced as a redeveloper in a process for making reversed negatives by a modification of the well-known autochrome color plate process. Experiments, however, have proved it to be an ideal intensifier for under-exposed negatives, that is to say, those with high lights which are already dense enough or too dense and weak half-tones and shadows. It being suitable for this type of negative because it has a powerful effect upon the weaker parts which need strengthening, and very little effect upon the dense portions.

The under-exposed but fully developed negative has always been a more or less difficult one to deal with, as most if not all of the popular and widely used intensifiers strengthen the highlights, which are already too dense, as well as the half-tones (if any) and shadows, with the result that an intensified under-exposed negative is rarely if ever satisfactory. The more expert operators have usually gone the right way to work in remedying such a negative, namely, first reducing the high-lights with a solution of ammonium persulphate, and then intensifying, a method which is risky and difficult, and not always certain because of the peculiar behavior of the persulphate solution. The newer mercuric bromide and metol mixture appears to have a selective action of exactly the right sort, and for this reason it is quite unsuitable for over-exposed and under-developed negatives. The intensifier, however, is not without very funny peculiarities which need to be understood before one ventures to use it upon a valuable negative.

The formula is in the form of two stock solutions, which are given below in both the English and metric systems:

A

Mercuric bromide	45 grains.	9 grams.
Soda sulphite (anhydrous)	2 ounces.	180 grams.
Water to	10 ounces.	1000 c.c.

B

Metol	100 grains.	20 grams.
Soda sulphite (anhydrous)	100 grains.	20 grams.
Water to	10 ounces	1000 c.c.

For use, 1 ounce, 7 drams of A are mixed with ½ ounce of B. Or larger or smaller quantities in the same proportions, namely, 15 parts of A to four parts of B.

The pure mercuric bromide is sometimes difficult to obtain, but it must be used if the best results are wanted. Authorities tell us that the mercuric bromide may be dispensed with if 34 grains of mercuric chloride and 30 of potassium bromide are used in the A solution, but few will care to try it on a valuable negative when we are told by the inventors that the proper mercuric bromide must be used.

The mixed solutions are allowed to simply work upon the well fixed and washed negatives until the desired effect is produced. If all goes well the

negative gradually strengthens, when it is washed and dried as usual.

The peculiarities of the intensifier have been very briefly mentioned, and, as they are important, they may be more fully described. In the first place the intensifier is a physical one, similar to the well-known silver intensifier; but it is quite free from any tendency to produce stains, such as some of the sliver solutions sometimes do. Physical intensifiers never work well upon old negatives because of changes which take place in the gelatine. The solution, therefore, may fail to give good results when any other than newly made negatives are treated; the newer the negative, the more likely is one to get a good result. The use of anhydrous soda sulphite is also important. If an attempt is made to use the crystal form of sulphite it should be the freshest and purest obtainable, and of course double the quantity used, namely, 4 ounces in the A solution and 200 grains in the B. The only defects I have met with have been traceable to impure sulphite. Finally, those negatives which have been fixed in darkness intensify the best. It is a common practice to admit actinic light while negatives are being fixed, and when this is done physical developers, or intensifiers, rarely give the best result.

Complaints have been heard about the new intensifier turning the negative into a positive and giving it the appearance of being partially bleached in a mercuric bichloride solution, and such defects are due to the negative being old, or to one or other of the causes given above.

Although there may appear to be some drawbacks to the new method, it works very well indeed, under proper conditions, and well be found to be of very great service for under-exposed negatives, with which so little can as a rule be done in the way of improving the printing qualities.

PHOTOGRAPHS UPON WATCH CAPS AND DIALS IN SILVER AND CARBON. PRACTICAL INSTRUCTIONS WITH WORKING FORMULÆ

[We have repeated requests for a working method of transferring photographs to watch caps, dials, etc., and for the benefit of our readers who wish to try this work, we are reprinting Mr. A. J. Jarman's article on the subject which appeared in this magazine some ten years ago. His method has not been improved upon.—Eds. W. P. M.]

Considerable interest attaches at present to the production of photographs on watch caps and dials. This work is almost exclusively done by firms making a specialty of these processes, the photographer rarely attempting to do the work himself. It is a profitable specialty, and by following these articles the readers of Wilson's may undertake such work, and so save the profit at present going to others.

In the production of these photographs it does not matter whether the watch cap or other article is gold-plated or silver-plated, so long as the metal beneath is sufficiently covered with a film of silver or gold. Nickel-plated watch caps or fancy articles should not be attempted for reasons which will be explained later. The instruc-

tions here given will also cover the making of miniature portraits on watch dials, which work does not present any considerable difficulty. We will deal first with the process.

The negatives required for watch-dial portrait should preferable be of that quality best suited for carbon printing, except that the negative need not be a reversed negative, since the image is developed direct upon the cap, lid, or dial. To make the photograph by the silver process: Procure some baryta-coated paper; the color of the baryta coating is immaterial. Cut the paper into pieces about eight inches by ten, or ten by twelve. Place these in a clean printing frame with a strong piece of glass and keep them under pressure twelve hours or more. This will take out any curl there may be in the paper without injuring the delicate surface.

Now prepare the following solution:

Heinrick's soft gelatine (or Nelson's No. 1)	130 grains.
White granulated sugar . .	30 grains.
Filtered water	10 ounces.

These are placed in a thoroughly clean pitcher or small stoneware jar, and allowed to soak for an hour. Place the pitcher with its contents in a suitable sized saucepan, pour some hot water into the saucepan around the jar, about one and a half inches high; bring the water to boiling point and keep it at this temperature for about five minutes, during which time the contents of the pitcher should be stirred with a glass rod until the ingredients are completely dissolved and a thorough mixture obtained. Have ready at hand a porcelain pan or tray of suitable size; allow this to rest in a larger pan or tray containing hot water (the object of this being to keep the inner tray at a uniform temperature, thus preventing the gelatine solution from becoming too thick or setting to a jelly, this point being important as influencing the coating of the paper). Now take a piece of cheesecloth about eighteen inches square, rinse it thoroughly in warm water, wring it out as dry as possible, and place it over the top of a clean basin so as to form a bag in the middle. Pour the hot gelatine solution through the cheesecloth. This being done, pour the filtered solution directly into the warm porcelain pan or inner tray, so as to avoid forming air bubbles.

Take one of the pieces of baryta-paper by the extreme corners and bring the ends up so that the sheet is shaped like the letter U. Allow the centre of the sheet to touch the gelatine solution evenly at every point, then carefully, but quickly lower each end (as in silvering paper), so that the sheet lies flat upon the surface of the warm gelatine. If there is any tendency to curl, hold the ends down on the solution for a few seconds, when the paper will become quite flat. Now remove the sheet by drawing up one corner and carefully allow the solution to drain from it against the edge of the tray. This should be done carefully so that no air bubbles are formed. Hang the paper up to dry in a room or closet free from dust, by means of wooden clips, using a length of copper wire as a support. This wire should be stretched from each side of the room or closet. Do not use string for this purpose as the loose fibre may fall and stick to the gelatine side of the paper. Great care and cleanliness are essential in all the coating operations. It is advisable to coat a number of sheets of the baryta at one time when the gelatine solution is in good condition.

This coating of gelatine solution on the baryta paper forms the substratum upon which the collodion-silver

emulsion rests, and paper so prepared will keep in good condition for about two years. When thoroughly dry the sheets should be packed together flat in a large printing frame, with two sheets of glass or other perfectly flat support, and kept under pressure until required for use. This not only flattens the paper, but keeps it out of harm's way until required.

A collodion emulsion should now be prepared according to the following directions:

COLLODION

Pyroxylin (gun cotton) . . .	47 grains.
Alchol (pure photographic) . .	3 ounces.
Sulphuric ether	5 ounces.

Shake this mixture well until all the pyroxylin is dissolved, and mark the bottle "stock collodion." Now procure half a dozen four-ounce amber-colored bottles with good fitting corks, clean them thoroughly and when dry prepare the following solutions:

No. 1.

Nitrate of Silver (C.P.) . . .	4 drams.
Distilled Water	4 drams.

No. 2.

Chloride of strontium . . .	128 grains.
Alcohol (pure photographic) .	4 ounces.

No. 3.

Citric acid (powdered) . . .	128 grains.
Alcohol (pure photographic) .	4 ounces.

Be sure that all the above solutions are completely dissolved.

Into a separate clean bottle pour four ounces of the stock collodion, add sixty drops of solution No. 1 to two drams of alcohol, shake thoroughly and add to the collodion. Shake the mixture well and add two drams of No. 2, shake vigorously and finally add one dram of No. 3. Now shake the mixture well and allow to stand for half an hour, and it will be ready for use.

Take one of the dried gelatinized sheets of paper; fold up the edge about one quarter of an inch so as to form a tray of the sheet. This is readily accomplished by carefully placing a clean strip of wood, such as a flat rule, upon the flat surface of the paper and turning up a quarter of an inch edge with the fingers. Make this edge so that a lip is formed at the opposite corners of the sheet. Hold the sheet in position on a piece of stout cardboard by just a touch of sealing wax at each corner so that the wax is not exposed. Have at hand another clean amber bottle with a small glass funnel, in the neck of which has been placed lightly a small tuft of absorbent cotton. Filter the collodion emulsion into this bottle. When filtered take the prepared paper tray in the left hand by the corners, pour therein about one ounce of the emulsion, and gently tilt the tray so that the emulsion is made to flow to the corner nearest the hand that holds it, then to the opposite corner, now to the third corner and lastly to the fourth corner, where the excess of emulsion is drained from the paper into the first bottle by means of the tip at the corner of the tray.

This operation is exactly like finishing a negative. When the surface of the paper has been well covered with emulsion rock it gently to and fro so as to secure a perfectly even coating on the surface, then stand the paper aside to dry. When quite dry, which will take about ten to fifteen minutes, coat once more with the filtered emulsion; but for this coating reverse the position of the tray so that the emulsion is drained from the corner opposite to that from which it was drained in the first instance. The object of this second coating is to secure an even coating all over the paper.

Allow the second coating to dry, and when thoroughly dry lift the coated paper off the supporting cardboard by means of a penknife; trim the edges off with a pair of scissors. Pack it in a clean printing frame as previously described so as to protect it from the air until required for use.

This prepared and sensitive paper will keep good for about one week if kept under pressure and away from the light. It should be understood, of course, that all these operations must be performed in a yellow or orange-colored light, never in a white light, as the emulsion is very sensitive and the pure whites of the resultant picture would suffer. This will be well understood by the older photographers, but may be new to some of the younger workers. All the solutions may be put aside for future use, as they will keep in good working order for about two months.

(To be continued)

GET IT IN THE LIGHTING

BY U. S. TWAIN

(Concluded from page 256)

HERE, again, not only must special attention be given to the lighting, but they must be treated in such a manner as to bring out the pattern and design in bold relief. This is accomplished by photographing them when they are suitably distended on stretchers, and placed under a very high top light only, with an absolutely black background, and this must on no account be brought close up to the fabric, as many suppose, and sometimes actually placed in contact with the curtains.

For a background in work of this description there is nothing to equal black velvet, placed at least twelve to fifteen inches behind the fabric, and when such arrangements are carried out, and a slow transparency plate used with a very full exposure under a high top light, beautiful reproductions of the finest design and traceries are possible of accomplishment.

In work of this description the faintest inequality of lighting will be apparent when the negatives reach the printing stage, so that it frequently happens that some experience and previous test of which is the best portion of the studio to employ at a given hour of the day is required, so as to produce nice, even results that permit of good process blocks being produced.

METHODS AND FORMULÆ

THERE are few rooms in which a home portrait cannot be made, but the most suitable is one with a bay window, or a long narrow room with a high window in the centre. A room with windows at each end is excellent if one of them is partially covered up.

When a formula is given in "parts" all that has to be done is to write "grains" for "parts" in the case of all the solids, and "minims" for "parts" in the case of all the fluids, and then to multiply all by some number which will give a convenient quantity of the

preparation. While not absolutely accurate it is quite near enough for all photographic purposes.

In preparing mountants, where starch, arrowroot, dextrine, etc., are used, always rub down to a smooth paste with a little water and a spoon or fork, before adding boiling water or heating the mixture to swell the grain. With gelatine, swell in cold water, then warm gently, until dissolved, in a double boiler. In stirring pastes, always stir in one direction the whole time of cooking; never reverse.

The Care of Lenses. A word of warning may not be out of place at this season of the year to photographers concerning their lenses. The air is charged with moisture and we are experiencing considerable fluctuations of temperature, which cause condensation on the surface of the lenses. Some of the glass used in the manufacture of anastigmats is far more susceptible to deterioration from atmospheric causes than the old varieties. We had strong demonstration of this a short time ago in an expensive lens which had "rusted." It had been carelessly exposed for a very considerable time in a dealer's window, and from the dust upon it there was no doubt it had not received any attention. When the lens was cleaned it was found that the surface of one combination had suffered considerably, and the lens had to be returned to the maker. The photographer, if he respects his pocket, should be careful of the condition of his lenses. They should be cleaned periodically and kept in cases. Two tightly-fitting caps also afford good protection. Keep lens in a dry, moderately warm place. The best method of cleaning them is first to brush off the dust with a camel-hair pencil, then slightly moisten the surface with the corner of a clean old linen rag moistened with alcohol and finally to dry well and polish by rubbing with a clean linen duster folded into a small pad.

One of the best ways to dissolve hypo is to put the amount called for into a piece of muslin or cheese-cloth and turn boiling water over it. This dissolves the hypo and at the same time strains it free from dirt. It is always a good plan to strain hypo, for the crystals are likely to contain small particles of dirt which will sink into and injure the film.—*Delia H.*

To waterproof wood, workbenches tables, etc., make up the following:

A.—Copper sulphate	125 parts
Potas. chlorate	125 parts
Water	1000 parts

Boil until the solids are dissolved.

B.—Aniline hydrochloride	125 parts
Water	1000 parts

C.—Aniline oil	120 parts
Hydrochloric acid	180 parts
Water	1000 parts

Apply a coating of A (white hot) with a broad brush. Let this dry, and then apply a second coating. Then, in like manner, apply two coatings of B or C, allowing the first coating to dry before the next is applied. Finally, fold up a duster into a pad shaped like a penny bun, apply a few drops of linseed oil to the wood, and polish with the folded duster. It is of first importance that each coating should be freely applied, and then allowed to dry before the following application is made.

For a dead-black paint, take a dinner plate or tile, mix up lampblack with a few drops of gold size to make a black mass of the consistency of butter, then thin this down with a little turpentine. Exact quantities

cannot very well be given, but a trial will put you on the right track. If you use too much gold size, the blacking will dry shiny; if you use too much turps, the blacking will not stick to the material to which it is applied. To apply it, use a soft, hog-hair tool, lay on an even, thin coat, and do *not* work it about too much with the brush.

Flat Negatives or Weak Image. Thin and weak negatives, lacking density, may be due to under exposure, developer used at too low a temperature, or on account of developer not acting with sufficient energy. Thin, flat negatives are also due to insufficient development. Too much diffusion of light on the subject will also produce flat negatives.

The remedy would be to light with more contrast, giving more roundness and relief, give correct exposure and keep temperature of developer and dark room at the proper point. If, after having taken every precaution, negatives are still weak and lacking in brilliancy, it is possible that better negatives can be obtained by increasing the proportion of carbonate of soda in the developer. Impure sodas are responsible for many thin negatives.

A Dark-room Illuminant. Silver chromate in gelatine is recommended for dark-room illumination. To prepare it the following solutions are made up:

1

Gelatine	100 grains
Water	4 ounces
Potassium bichromate	20 grains

2

Silver nitrate	20 grains
Water	1 ounce

The gelatine is soaked in the water until soft, dissolved by warming, and then the bichromate is added. No 2 is then poured in. The emulsion is said to give a deep ruby film, and may be spread on glass in the usual way.

A Useful Hint. A very short but sufficiently accurate method of determining the distance that will be required to take a standing cabinet picture with any lens is given us by the Bausch and Lomb Optical Co. Simply multiply the equivalent focus of your lens by 19 and divide the result by 12, and the answer will be the distance in feet that the lens must be from the subject to make a standing cabinet. For example, if your lens has an equivalent focus of 14 inches, then multiply 14 by 19. which is 266; then divide 266 by 12. which is 22 2-12ths, or 22 feet 2 inches as the necessary distance required. This method of figuring will be valuable to those who contemplate building or buying a studio, and must know what dimension will be necessary.

For the man who has his studio, but who contemplates getting a new lens, if he does not already know the equivalent focus he wants in his new lens he can figure out the equivalent focus of the lens he has by reversing the above operation. Thus, focus the lens on a standing figure, and get the image the standard size for a cabinet. Measure the distance to the subject. Let us say, for convenience, that you find him to be just 22 feet and 2 inches. Convert this into inches, which is 266. Then divide by 19, and the result is 14. or the equivalent focus of the lens you are using. If you have room to spare. you will know that you can use a lens of more than 14 inches, but if this is all the room you have, you must get a lens of 14 inches, or less, equivalent focus.

The first necessity of a portrait must be likeness. Individuality of the subject, not your personality.—*Holloway.*

FIG. 1. DECORATIVE STUDY

The Hoffman Studio, Philadelphia, Pa.

Illustrating Sidney Allan's Article

FIG. 2. STUDY HEAD

The Hoffman Studio, Philadelphia, Pa.

Illustrating Sidney Allan's Article

FIG. 3. PORTRAIT

The Hoffman Studio, Philadelphia, Pa.

Illustrating Sidney Allan's Article

FIG. 4. RYLAND PHILLIPS

The Hoffman Studio, Philadelphia, Pa.

Illustrating Sidney Allan's Article

FIG. 5. TYPE OF AN OLD MAN

The Hoffman Studio, Philadelphia, Pa.

Illustrating Sidney Allan's Article

FIG. 6. PORTRAIT STUDY

The Hoffman Studio, Philadelphia, Pa.

Illustrating Sidney Allan's Article

FIG. 7. FROM A GUM PRINT

The Hoffman Studio, Philadelphia, Pa.

Illustrating Sidney Allan's Article

FIG. 9. PORTRAIT

The Hoffman Studio, Philadelphia, Pa.

Illustrating Sidney Allan's Article

THE HOFFMAN STUDIO, PHILADELPHIA, PA.

BY SIDNEY ALLAN

EIGHT years ago Hoffman worked in Goldensky's studio. Then he branched out for himself—somewhere in that interminable monotony of houses Philadelphia consists of—and now has come to more fashionable quarters, South Broad Street, of the same city.

This is about all of photographical biography there is to tell about the maker of the nine pictures in this number of the magazine. His prints must tell the rest of the story. The life of a Philadelphia professional is apt to furnish no data for Who's Who. Incidents of interest happen only in the workshop, which may be the occasional scene of esthetic adventure and excitement, and the results of these exploitations alone interest the critic. Mr. Hoffman enjoys the distinction of being "heartily hated" by some of his colleagues, of being ostracized from certain privileges of the Philadelphia brotherhood. Well, they must settle that among themselves. It has, however, one disadvantage to the recipient of these "favors and attentions." It is more difficult for the outsider to get a true estimate of his work.

The writer of these lines has visited Philadelphia numerous times during the last eight years (it is really his home town and he has a certain weakness for its reticent charms), but somehow he never came to see the work of the Hoffman Studio. And it is worth seeing. Of course, it is the same case as in Goldensky's studio. It is exhibition work which greets us from the walls of the reception room. The leather portfolios on the table cause many a trespass against good taste and the canons of pictorial delineation. But that is the fault of the customers. For as long as there is better work in evidence, they are the masters of the situation. If they really wanted good work, they are given the chance to insist upon having it. I believe every photographer who takes the trouble to decorate his walls with "artistic" work would be only too glad to serve customers with similar efforts. So it must be some deficiency in the judgment or vision of the patrons that is responsible for the many misdemeanors that are committed in the name of photography. The artistic element can not be forced. There must be a healthy demand for it, and as long as people accept or select cheap work when they could have better work, the public is to blame and not the photographer, that the average photograph is everything but a "thing of beauty."

Hoffman's works belong to the tonal school. Each of his prints has a decided tonal quality. He, however, does not sacrifice every other element of composition to this one accomplishment. His gradations of tone are soft and vague, but rarely blurred, except in gum prints like Fig. 7. His fondness of contrast prevents monotony. How many photographers are capable of introducing such a distinct contrast of dark and light planes, as we notice in Fig. 1, and at the same time preserve a decided feeling for tone? In Figs. 2 and 8 we see large, dark shapes exposed against middle-tint backgrounds. Combinations like these generally spoil the tonality, but in these instances the shapes are so well balanced and controlled by the main tint that the pictures have to be ranked as tonal compositions.

Hoffman is more *pictorial* than most tonalists. By this is meant that he is less anxious to secure the usual picturesque effects that are produced either by monotony of surface with a few telling accents or by the contrast of smaller planes (heaped together in some important part of the picture) against the prevailing tint of the composition. Hoffman is more careful, or rather precise in his composition, he strives for the accentuation of form and line. The live feeling is very pronounced in his work—notice Figs. 1, 2, and 8, even in the gum print, Fig. 7. Of course, these prints are all studies of a decorative tendency, and not portraits. There are only three straight portraits to be found among our illustrations—Figs. 3, 4, and 9. Figs. 1, 2, 7, and 8 are out of question. Fig. 5 is the representation of a type and not the portrait of an old man. Fig. 8, even if meant for a portrait, is really a decorative study, while Fig. 6 may pass for a group portrait. But even in the straight portraits there is a decided feeling for line in the drawing of the features, as well as in the placing of the silhouette of the figure against the background. And this is the reason why Hoffman's work should be termed "pictorial," as it is more like that of a legitimate figure painter, to whom tone is surely a matter of importance, but not the whole thing, as with so many of our pictorialists.

Let us now consider the various points separately and see how successfully they carry out this idea.

Fig. 1 is the best composition. There is clearness and a satisfactory balance of lines. A pity that the negative is somewhat defective. The composition is controlled by the lighting which produces the principal accents of the lighter planes. The lower hand could have been posed more carefully.

Fig. 2 is a good study head. There is nothing out of the ordinary in the composition. The head is well placed, and the background which is almost of the same value as the face furnishes the keynote to the tonal arrangement. The white collar adds an interesting note of contrast to the dark hair, headgear, and shoulder, and the middle tint diffused throughout the picture produces the desired harmony.

In Figs. 3 and 4 the pictorial element is less in evidence. In Fig. 3 the treatment is sketchy and the lines of the bust are partly lost, while in Fig. 4 the arrangement is too conventional to be of any special interest. The main interest centres upon the facial expression, and it seems to be a virile and characteristic one in both portraits. The background in Fig. 4 could be improved by greater simplicity.

The "Type of an Old Man" is an excellent profile study in low-toned flesh values. The hands are rather too prominent, and are not pleasing in shape. The face is well handled, it is "flat" and yet nothing of importance either in structure or texture is lost.

The two heads, Fig. 6, are too melancholy in expression to pass for straight portraiture, and they are hardly interesting enough in treatment to be ranked as a pictorial masterpiece. The placing of the heads—one in full face, the other in profile, the latter a trifle lower than the other—is rather primitif. The tone, remarkable for its depth, is produced by a profuse use of opaque blocks. Aside from the blocks and the highlights, there are only two low middle tints in the tonal arrangement, which is worth studying. The picture is suggestive of sentiment, but it is carried out in too austere a fashion to be either popular or pictorial. A light accent somewhere on the full-face view and the accentuation of one of the diagonal lines of the shawl might have produced the desired result.

The gum print, Fig. 7, is noteworthy for its textural quality. The print looked rather dead and muddy when on exhibition, but it becomes pleasing at closer scrutiny. The effect is deliciously broad, and strange to say, not deprived of subtlety, except in the shadows, which are dull. The rough texture would never do for portraiture, but it is the right kind of technique for decorative panels in a photographic frieze (if such a thing will ever be attempted).

The charm of Fig. 8 consists largely in the uplifted position of the head and the lineal charm of the profile and neck. The ribbons, although furnishing an interesting accent, really cheapen the pictorial merit of the picture. The head is placed rather high, but it does not hurt the composition. The picture is as pictorial as Figs. 1 and 7. All three are worth framing, which is really the best recommendation one can give to prints on this order.

Fig. 8 is a good example of tonal portraiture. The figure is well placed, the silhouette pleasing to the eye, the facial expression clear and animated, the modeling and lighting satisfactory in every respect, and the warm tone which prevails throughout the details of the figure and the plain background combine the various elements to a fascinating and most harmonious space arrangement.

Few studios can boast of having such a fine display of artistic efforts on their walls as the Hoffman Studio, and it is sincerely to be hoped that these exceptional prints will not serve merely as examples of what might be done, but that they will persuade some patrons at least to indulge in a more artistic style of portraiture.

MATT ALBUMEN

GOOD prints on matt albumen are the only ones that equal fine platinums in tone, surface, and quality. Bromides certainly resemble the latter, but the gelatine coating prevents the achievement of equally perfect results. Matt albumen has practically no coating, certainly none that is distinguishable, since it is necessary to mark the paper in order to distinguish the sensitized side. The tones range from the nearest approach to red chalk carbon obtainable in an imitation, to the beautiful steel gray characteristic of platinotype.

An exceptionally varied selection of surfaces are obtainable, including the usual smooth matt, rough white, cream, and some unusual effects in screen grain, linen surface in card and paper, cream and white, also Japanese vellum.

The only drawback of a process capable of yielding the most artistic results is the care required if permanency is to be ensured. Careless handling may lead to fading, partially or wholly, in a few days. Properly handled, however, the results are at least as permanent as collodio-chloride, a process which matt albumen resembles to a very great extent. The results are undeniably charming. The point is, can you trust your assistants to carry out thoroughly and conscientiously the elaborate washings absolutely necessary for satisfactory stability? As some safeguard in this matter we would suggest that the assistant fills in a time-sheet giving the exact time of starting and finishing toning; these can easily be checked occasionally, and although it does not abso-

lutely ensure application, it goes a long way toward it.

As received, the paper is packed face to face, marked on the back. One peculiar point about storage is that, unlike any other paper, a damp place is the best; at least, for a few days before use. Paper that is slightly damp undeniably prints more brilliantly than absolutely dry. One finds that it is almost as difficult to keep suitably damp as it is to keep other paper bone dry.

We use a platinotype storage tin with a damp sponge in the calcium receptacle. This is much better than steaming the paper before use, as this is liable to leave shiny patches that will not disappear.

Do not print in the sun. Print for warm tones about the same depth as for P.O.P.; for black tones and browns obtained by means of two tonings print slightly darker. Or, in other words, print as for C.C. No C.C. toner will have the least difficulty in going straight from C.C. to matt albumen, toning manipulation and toning baths being identical. The preliminary washing is for twenty minutes, no matter what the after-treatment is to be. So important an effect has this washing on resultant purity and evenness of tone that the very greatest care and attention should be expended upon it. Each print must be constantly moved about and the water changed as soon as milky. The most efficient and recommended method is to transfer prints one by one from one dish to another. For this, big sinks are essential, as dishes must be large.

Great stress will be placed on the necessity for thorough, complete washing at every stage, and it cannot be too forcibly impressed on the reader that if even results are required no curtailing or carelessness is allowable. If this first washing, for instance, is not sufficient, gold will be wasted, tones in gold may be uneven, and probably degraded. If a platinum bath is subsequently used, color may be bad; in any case, will be muddy.

If the washed prints are now fixed in the regular hypo bath of water ten parts, hypo one part, the prints are a really good red tone free from brickiness.

The above fixing bath is used for this paper always. It should be made up by weighing, used fresh, and not over-worked, at least ten ounces of crystals being used for each half-quire of paper. Keep prints moving for at least fifteen minutes, longer for a large batch. It is advisable to use two baths in the latter case. Thorough fixation is absolutely imperative.

Brown tones of various shades varying from red-brown to violet-brown, the latter rather novel, certainly quite pleasing, are obtained by toning in gold after the first wash.

Water	40 ounces.
Borax	80 grains.
Gold chloride	2 grains.

Make up just before commencing to wash.

A few seconds in the solution will give reddy browns; chocolate and violet-brown extending to as long as five minutes. Chocolate-brown appears to be the simplest color to obtain and repeat, quite an amount of latitude being allowable. For platinum black tones obtained by gold toning followed by platinum bath the exact shade obtained in the former is of the highest importance. The resulting color depends entirely upon it and not at all on the platinum so long as the latter is used beyond a minimum time. To obtain pure steel grays prints should be taken out of the gold bath as soon as the red tinge leaves them. If removed too soon the results are browny-greeny-black.

if gold toning is too prolonged the finished color will be blue-black.

Prints, gold-toned only, may be placed in hypo as soon as toned. Prints for duplicate toning must be very thoroughly washed for twenty minutes before being placed in the platinum bath. If this is not properly carried out toning will be slow, uneven, and wasteful, the platinum tending to deposit on dishes instead of prints. One minute spent on washing will be well repaid by quicker toning later. The reason for this is the fact that gold will only deposit on the sliver image when in alkaline solution, while platinum must be in acid solution to tone. In other words, all trace of the alkaline gold bath must be removed or the acid platinum bath will not act properly.

After thorough washing, then, prints are ready for the latter bath.

Water	50 ounces.
Potassium chloroplatinite	15 grains.
Phosphoric acid, s. f., 1-120	½ ounce.

A good number of prints may be handled in this, for one cannot overtone. A new bath will act quickly. An exhausted bath is very slow, giving brown tones. Do not economize too much with the expensive chloroplatinite.

The used bath may be kept and used again, with the addition of fresh solution. Do not undertone; warm prints dry colder, but for the best results the prints should reach the desired color before being again washed. Important as the previous washings were, this is the most necessary since it is lack of thorough washing at this stage that is the main cause of unstable prints. All trace of the acid platinum must be removed before the photographs are put in hypo, otherwise the acid would react with the hypo. It is advisable to put a little stock borax solution into the last washing water, and also a little in the fixing-bath, into which the prints must not be placed before they have received a full twenty minutes' careful hand-washing.

Prints treated as above have beautiful pure blacks that well repay this somewhat lengthy manipulation.

Another method of securing black prints is to tone in the above platinum bath immediately after the first washing. A new platinum bath will give very good results. The least overdose of the bath, however, leads to dingy brown-blacks; in any case, the whites are not quite so pure as those obtained by the double-bath method. If, however, one does not want blacks, but stops the toning much earlier, good browns can be got. Always wash thoroughly before fixing.

By far the finest browns are obtained by using an ammonia bath after the first washing:

Water	70 ounces.
Liquid ammonia	11 drams.

Keep moving all the time. Stains are easily caused in this bath. Dishes must be irreproachably clean. Afterward wash for at least ten minutes to remove all trace of the alkali (ammonia) before placing in the acid platinum. A few seconds only in the latter gives a somewhat yellow sepia; longer, a beautiful warm sepia resembling a warm sepia carbon, followed by sepia, then a distinctive brown sepia, later on a cold sepia, at last arriving at a warm black.

This method requires more care, perhaps, with dishes and handling than any of the others described, but the results are really beautiful—certainly the only ones to be compared with carbon or sepia platinotype, the color being really sepia rather than

portrait browns given by the more usual methods.

Treat as usual after platinum baths. All prints after fixation should be hand-washed for at least twenty minutes, and then in running water for not less than three hours. As running water is a hopelessly inefficient method a further handwash may be given with advantage.

Drying off should be done in a room free from any suspicion of chemical dust, preferably between clean blotting-paper. Foreign matter that would only stain the paper base of a platinum print would in all probability affect the image of these prints, which, while still wet, are very easily harmed.

Throughout the fingers should be kept off the sensitive surface as much as possible, any trace of greasiness leaving red patches where the toning-baths refuse to act. For good permanent results use pure chemicals, clean dishes, and wash, wash, wash. One fruitful source of impermanence used to be the mounts, this paper being peculiarly sensitive to influences that would have no apparent effect on other media. Dry mounting is a great safeguard, and we should advise its use entirely, or in default merely tipping the print on to the mount by the corners only.

This paper, owing to the variety of surfaces, thicknesses, and colors of paper, is particularly suitable for masked-out prints, more especially as in these styles the first cost of the paper is a consideration. The Japanese vellum, although tending somewhat to heavy waste on account of the delicacy with which it must be handled, is very satisfactory for high-class customers. One must be very careful to avoid creasing or rubbing at every stage. Owing to the great economy of time the tendency is to tone large batches. It will be found far more real economy in the end to keep the number of prints down and tone more frequently.—W. FOSTER BRIGHAM, in *The British Journal of Photography*.

PHOTOGRAPHIC PORTRAITURE

BY W. C. E.

I CANNOT recall from actual experience the conditions under which portraiture by the aid of the lens was prosecuted in what appears to us now at times almost remote; the colotype, the daguerreotype, I had no part in. The sitters of those days were doubtless in all essential respects identical with the people who sit to us now, requiring substantially the same attentions at our hands, though not so exacting in their wants and expectations, because the popular taste and education in art advances with the progress of our art itself. What satisfied thirty years ago the general sitter would not find any favor now, just as the long sittings required in early times would not be tolerated now, for the state of the case is well known, and something like an exposure of a few seconds, more or less, is looked for as a matter of course. The word "instantaneous" has come to be associated with all photographic operations.

In portraiture a succession of phases has been passed through, looked at from a professional point of view. One who has stood beside the camera for a

number of years can call to mind distinct features belonging to successive periods. These may apply to pose in some instances, and in others to accessories, and so forth. At certain dates we can speak of this or that style being "in fashion." There was, for example, the plain background, then the pillar and curtain, then the picture era, the introduction of the solid accessory, and the time when every one who stood for a portrait was made to lean on the back of a chair. Of course, there were always those who had perceptions of the fitness of things superior to the common tendency of the time, and stood out as the stars of the profession, and no doubt it will always be the same. We live in a time which will take its place in photographic history, and have its characteristics pointed to in turn. It is well, however, if we can rise above our environments so far as to be able to know what is merely temporary and what is enduring in the principles which guide us in our art and practice. For the beautiful is everlasting and can be admired and enjoyed at any time, even long after it may have been discarded for some new form or method of producing an effect.

As the painter must ever be beholden to his brush and other mechanical aids to the expression of his genius, so must the photographer make intelligent use of his appliances in order to the production of his best efforts. As portraits may be painted or produced by other means than those usually employed, so may photographic portraits be produced without a studio; but to the professional man the studio is as necessary in the one case as the other. Amid all changes certain requirements remain, and the studio is one of these. Let me say a word about it: All manner of construction and situation is to be found, and probably advocates for every variety we can think of; but while many are compelled to do with less than they could wish, or a different situation than they could desire, a very general inclination will be found in favor of a north light. My own preference is decidedly toward a north or northeast aspect. My studio is seven feet six inches in height at the side, arising from that at an angle of forty-five degrees. This I consider a good servicable height. It will be found that a high roof lessens the effective control of light by the operator, without which just so much more difficult and uncertain will it be to obtain the most satisfactory results.

The construction of a studio, apart from its relation to the principal light, has not, I think, very much effect one way or the other on the work produced in it, unless it is of a most awkward and inconvenient description. It must be a very faulty studio indeed in which good work cannot be done, provided there be on the part of the operator the necessary knowledge of the requirements of any particular case, and how to meet them by skilful adjustments, and what I might call artistic tact.

In the matter of lighting the subject, one man's work is apt to partake of a certain uniformity of character, arising from his constantly working under the same, or nearly the same, conditions. A very common error many operators fall into is to set every sitter on the same spot and endeavor to direct the light they judge most suitable on that spot, instead of trying the effect of different points, where they may be placed in relation to the main light—in fact, bringing "the mountain" to Mahomet, instead of Mahomet to the mountain. Where the facilities for doing this are very

limited, or where it cannot be done at all, there is no more to be said, and the best must be done with what is available.

Where we have to deal with strong contrasts, such as white hair and high complexion, or white and black draperies, the subject will be most effectively treated by being made to face the light; where the conditions are reversed, an opposite treatment, according to the particular demands of the case, must be resorted to. The matter can only be referred to in general terms. A skilful operator will determine what to do when the subject comes into his hands, and especially when he sees the sitter in the light which falls just about where he is to be taken.

If good lighting necessitates considerable study and knowledge of effects, posing demands no less; indeed, the art of lighting a subject may be mastered with tolerable completeness, while posing may never be thoroughly acquired, because it is less of a mechanical accomplishment. It calls for a knowledge of harmony of lines, and the effect of balancing of parts—what, in short, is described as composition, and which everyone does not naturally possess. An operator may fail in this, just as painters sometimes do, who, though good colorists, are defective as draughtsmen, and in the ability to conceive a good picture. We sometimes feel that photography is too literal to be artistic. From a client's point of view, its tendency is to exaggerate the imperfections rather than the *perfections* of face and figure. Should you have a stout figure to photograph, the neck, as a rule, will appear short. To obviate this appearance in the portrait, it is best to adopt a standing pose, with the camera a little below the level of the head. If a sitting position is chosen, undue height will be given to the shoulders, and the shortness of neck will be emphasized. In treating the opposite extreme—a thin figure with sloping shoulders (not so objectionable in the gentle as in the sterner sex)—I recommend a sitting pose, and in the case of gentlemen, especially when the head is large, a little drapery, in the form of an overcoat loosely thrown back. The head should be turned in the reverse direction from the angle at which the body is placed, which will help to give the appearance of substance and harmony to the figure, and altogether make the picture more pleasing. A little attention of this sort will improve defects in the sitter just as easily as the want of it may produce them where they ought not to exist. As a rule, twist the figure as little as possible when the person is stout.

No doubt many workers have observed that some people turn the head more gracefully in one direction than in another; the head seems balanced in the one case, while in the other it may be the line of the neck and shoulder forms too great an angle. Should it be necessary to take view of the face which gives prominence to this defect, turn the figure away, and the head toward the camera.

Allow me to say a few words as to the treatment of the different features of the face.

When the forehead is high and broad, no particular attention need be paid to the view taken of it; but should it recede too much, and a side or three-quarters view of the face be wanted, let the outline blend with the background. The same treatment should be resorted to where there is an undue fulness of the upper part; of course, in children this is common, and is no defect, but when occurring in the adult, is better to be modified.

Very often one brow droops a little, or the eyelids may have the same tendency, in which case I find the best plan to avoid exaggerating this inequality, is to turn the figure to that side and the head toward the camera, keeping the droop in the shadow. Variety in noses is endless; make the lens look down at the short, and up at the long, or rather place them in these relations to the lens. If the outline be ungraceful, modify it by more front view. A really good or beautiful nose will be valued by its possessor, and its beauty will be best exhibited by a slight turn of the head; a broad nose is improved by the same treatment.

The full eye, when light, is difficult to manage, and if all other conditions are suitable, should be turned away from the light; in fact, the greater portion of the face should be in shadow. When the eye, on the contrary, is dark, avoid reflections which show with marked effect on the eyeball. A sullen eye is generally turned toward the light, but I prefer it turned away, and the light diffused with a medium such as tissue-paper close to the head. As regards the expression of the eye, we must remember that this is an act of the mind, and not of the will, and that the old style of request, when being taken, to "Look a little pleasant, please," was wide of the mark, as the endeavor to so do never affected the eye or intellectual part of the expression.

With reference to the mouth, the chief want felt in photographs is lightness and transparency of shadow, caused by the non-actinic color of the lips, as where they are brightest, and, therefore, most beautiful, the photograph gives the reverse effect. A good deal can be done on the negative to rectify this.

No man will succeed to any great extent as a portraitist who does not exercise a constant and intelligent observation on all that affects his sitters. Details that to a careless or unobservant mind might seem too insignificant to pay any attention to, may yet be of the greatest importance. The things which go to make a pleasing portrait in any one instance may be in themselves little matters enough; the turn of the head, one inch this way or that, the raising or lowering of the eyes ever so little—nothing, in fact, is too small to notice. Let the eye of the operator acquire the habit of taking in his whole sitter. An artist about to paint a portrait considers it necessary to have numerous interviews with his subject, so as to become acquainted with what is natural in the way of pose and expression, in many instances even residing with them for a time, and opportunities are afforded thereby of studying them under various conditions, seeing them in their different costumes, and selecting the one he thinks most suitable. How different is the expression of the faces of people when at their own tables, or in the midst of friends on any social occasion; how vastly different from what we see them when about to take the cap off the lens! An active consciousness enters in and deprives the picture of natural grace and beauty, as well as freedom of expression; the hands very often suffer, losing entirely their natural disposition. When you are thoroughly acquainted with your subject you cannot be deceived by this conscious expression, and you can remind your sitters that they are not looking like themselves. Now, how can this be said or done when ten minutes previously you did not know such a face was in existence? This is the only reason I can give for so many random and missing shots in photographic portraiture. Knowledge of the subject, I

say, is more or less a necessity when the highest results are amied at. But you may say, How is the knowledge to be obtained? Are photographers to spend a week or fortnight at their client's houses previous to photographing them? Such is impracticable, and certainly in the case of small-sized photos, photographer and sitters in the majority of instances must be strangers; but my remarks point more to larger photos direct from life. I consider it risky—I do not say impossible, because it depends on the subject—to take a large direct picture of a person ushered into your presence and out again in the space of twenty minutes. On a first visit a cabinet might be taken, and on a second visit the large one when you have gained the necessary acquaintance with your sitter's expression. It is a wonderful art, and because it is so, greater wonders are expected to come out of it. The stream of its rapid advance is not confined to one channel, but it continually overfloes and tends with eager haste to fields and pastures new.

PHOTOGRAPHIC PRINTING PROCESSES.* A PAPER FOR THE COMMERCIAL PHOTOGRAPHER

"PHOTOGRAPHIC PRINTING PROCESSES," the subject upon which I am to speak this evening, would be a very big one indeed were it not for the fact that I am to deal with them only in their connection with commercial photography.

Beyond the report of Mr. Beeson's lecture, which appeared in the *British Journal of Photography*, I do not know how the various speakers have handled their subjects, but I imagine that you will have gathered by this time that the commerical photographer's work embraces all kinds of objects from a pearl brooch up to a department store, and that no matter what he is photographing, the primary purpose is, not the making of a pretty picture, but of showing every detail as clearly as possible. The jeweller will want the iridescence of the pearls in the brooch, and the architect or contractor will want a faithful record of the appearance of the building as soon as it is finished. Quite frequently, too, the commission is given but a day or two, occasionally even only a few hours, before the prints are wanted, it may be as evidence in a lawsuit, or it may be for reproduction in a catalogue or a journal.

The first consideration—that of the perfect rendering of detail—at once cuts out all the "arty" processes which have loomed so largely on the walls of our exhibitions and in the columns of the photographic press for the last few years. The latter consideration only too often means that the print must be in bromide.

While we who are interested in the technical side of our craft are therefore grateful for the recognition given to the perfect negative and print by the demands of commercial photography, the "rush" nature of much of the work largely offsets the good that is thus done.

If I am right in thus thinking that previous lecturers have shown you—and your experience in your own business has probably done so, too—that commerical photography invari-

*A paper read at the L. C. C. School of Engraving, by W. J. Casey, of Raines & Co., and reprinted from the British Journal of Photography.

ably demands the rendition of all the detail in the object photographed, and frequently, if not generally, demands it quickly, you will at once see that the photographic printer has to do his work in accordance with the requirements.

The first demand means that the print must be made upon a paper having a glossy or, at the least, a semi-glossy surface, and so P.O.P. is frequently used; while the second—that of urgency—involves the use of bromide or gaslight paper.

Fortunately for the printer, there is one other demand which frequently arises, and that is for a print which shall be permanent. Photographs for museums and similar institutions are always asked for in platinum or carbon, hence the use of these two processes.

We thus come to see that the processes used by the commercial photographer are P.O.P., bromide or gaslight, carbon and platinum.

Before dealing with these processes separately, it may be as well to discuss a few of the conditions applying to printing generally.

In the early days of photography, when the materials were neither so plentiful nor their manufacture so specialized as they are now, every photographer had, of necessity, to possess a fairly complete knowledge of his business. Many of the older photographers I have met attribute their present financial straits to the introduction of the dry plate and P.O.P. printing, their idea being that the comparatively easy manipulation of these materials has been the means of introducing competition which would otherwise not have entered the field. I do not attach much importance to such complaints: I do not think that the professional photographer feels the effects of competition any more than, if indeed so much as, the chemist, the tobacconist, and the grocer do the opposition of the multiple shop companies, the coöperative stores, and the departmental stores of the large cities.

Where I do think the good technical worker has suffered by the advances in photographic manufacturing has been in the help, nay, almost the encouragement, given to slackness by the introduction of printing papers giving passable prints from carelessly produced negatives. These efforts are aptly summed up in the advertisement—"The good negative deserves Velox; the poor one needs it." It does not suffice to explain this away by saying that this catering for the slack worker is only done for the amateur trade. Once the amateur passes the press-the-button stage, my experience goes to show that he is much keener on the technical side of photography than the bulk of the profession. The majority of the workers in color are amateurs, and I feel sure that if Messrs. Wratten and Wainwright could be induced to give the information they would say that there are more amateurs than professionals using pan-chromatic plates.

Many operators of today delight in calling themselves artists, and are seemingly above such, as they think, unimportant matters as correct exposure, clean development in a darkroom with a really "safe" light—and so recourse has to be made to all kinds of "faking" on the negative, printing on special papers for either too thin or too contrasty negatives, and, if the photograph is for reproduction, artists' work on the original and fine-etching on the plate while in the half-tone engraver's hands. Here at the L.C.C. School of Engraving I know that in my connection with trade printing and enlarging I am sure of

receiving a very large measure of sympathy from the process workers in my complaint of the treatment we receive from the operators. Will those of my audience this evening who are now, or who intend to be, operators, please take it from me that neither the photographic printer nor the halftone engraver want a negative which is like a brick wall in its high-lights and is clear glass in its shadows. The only part in which we want clear glass is that in which it is none too often seen, and that is where it has been protected by the rebate of the dark-slide.

But if cleanliness and accurate workmanship are desirable on the part of the operator, they are equally so on that of the printer. In his creed cleanliness must be a very close second to godliness. Someone has defined dirt as matter out of place, and nowhere is this more true than in the printing-room. Those of you, and I hope that means all of you, who read the "Answers to Correspondents" page in the *British Journal of Photography* will have noticed how frequently inquirers are told that spots and other markings in prints which have puzzled them are due to "matter out of place."

It is obviously impracticable for the ordinary photographer to do as we are able to do at Messrs. Raines, and that is to set apart a separate room or rooms for each process, which is, of course, the ideal method for photographic operations. It therefore becomes all the more necessary to observe scrupulous cleanliness in every respect. Where room is limited one may be tempted to make use of high shelves, but it should always be remembered that the tendency of all heat and of most foul gases is to rise, and therefore paper should always be stored in drawers rather than on shelves. Damp is also to be guarded against: a degree of dampness which is not enough to show as moisture is still enough to damage many photographic papers. I remember that some years ago, when the sulphide method of toning bromides was introduced, Mr. J. B. B. Wellington, of Messrs. Wellington & Ward, wrote a letter to the *British Journal of Photography* cautioning workers from carrying out the toning in rooms where sensitive material was stored, as the fumes were highly injurious.

The foregoing remarks may seem unnecessary to most if not all my hearers this evening; but if to only one in this room the caution is of any value, it will have been well worth the time spent in saying it.

A very important part of the work done by commercial photographers is for the purposes of halftone reproduction. Much of this will have to be done in bromide, simply because there is not time to do otherwise; but it will be found that where the order is not so urgent the engraver will frequently ask for P.O.P. in preference to bromide. On the face of it, a good bromide is capable of rendering all the detail in the negative, and more than that cannot be expected, and certainly the color in the P.O.P. is more likely to prove a hindrance than a help. I have asked an engraver friend of mine for an explanation of this demand for P.O.P., and he says that it is largely a survival from the time when many photographers were unable to supply a good print in bromide and yet were able to give one in P.O.P., as that is, or was, the one they were using in connection with their studio work. In preparing our own originals for halftones in the booklet we issue I like to use one of the semi-glossy bromides—I mean the surface of which Wellington Carbon Velbro. or Kodak Velvet may be cited as

typical. The halftone illustrations in the Wellington & Ward advertisements in the trade journals are from originals made on their carbon bromide, and certainly they leave nothing to be desired. However, the photographer must follow his client's instruction, and if P.O.P. be specified his print must be on that paper. The pink grade which is largely used in portrait work must not be used, as the pinkness of course means a degradation of the high-lights when reproduced.

One other point occurs to me in connection with the preparation of originals for halftone reproduction. If it be known that the engraver has to supply vignetted halftones, such as are now largely being used in catalogue and booklet work, the prints should always be vignetted by means of absorbent cotton in the printing frames. I have been surprised in going through the offices of advertising agents and also of letterpress printers by the number of originals that have been printed from the whole of the negatives and which have had the edges softened by spraying with the aerograph. The vignettes so obtained are never so soft as when made during printing.

Let us now deal with the processes separately.

It is somewhat strange that although the term "silver" might be applied equally well to bromide as to P.O.P., yet the latter process is generally meant. So recently as ten years ago it would have been understood to mean "albumen." Albumen is a paper that none of you here are likely to be asked for—just why it has gone out of demand it would be difficult to say, although one factor has undoubtedly been that there have been powerful commerical interests exploiting the newer paper. The only requests for albumen seem to be in connection with crystoleum, a process in which the print is applied film down to glass, and then the paper base abraded away for colors to be applied to the photograph itself. Albumen, then, need not concern us this evening, except that, in passing, we ought to admire and emulate the carefulness of those who worked it. Quite frequently I am seeing prints which are anything from thirty to forty years old, and in which there are no signs of fading.

Collodio-chloride is a paper which is largely used in the United States and still more so on the Continent for commerical as well as portrait work, but in this country I have never known it to be asked for by a commercial photographer. As its name implies, the emulsion is a collodion instead of gelatine. Its working is practically the same as that of P.O.P.; but as its finest effects are obtained by platinum toning, the chloroplatinite of potassium bath is usually worked to obtain the characteristic warm black tones.

The bulk of your work will be done in either P.O.P. or bromide. For a description of the scientific principle underlying these two processes I cannot do better than refer to the able and interesting paper read by Dr. Kenneth Mees before the Society of Chemical Industry, entitled "The Photographic Industry," which was reprinted in the *British Journal of Photography* of April 26 last.

And now to the working instructions. The first point is as to the type of negative. In the photographic journals and text-books one sees the terms "average density," "thin," or "plucky," and you who are doing practical work will no doubt sooner or later hear the expressive, if vulgar, description of a negative as "having guts;" but to the worker who has no opportunities for comparison one recognizes that they are of little value. One cannot

go to the dealers and ask for an "average density" specimen negative, yet in my correspondence with photographers abroad I have been asked for specimens of typical negatives. It would almost appear as if there might be a sale for such, although it only means a little experiment for the isolated worker to prepare such a set for himself. Given approximately correct exposure the printing value of a negative is governed by the duration of development. At one end of the scale you have the very thin, obviously underdeveloped negative which will only give a passable print upon a gaslight paper of one of the "vigorous" grades. Development carried slightly further, but still such as to be called a "soft" negative, will be suitable for either bromide or P.O.P. The next stage of development will give us what we may term an "average density" negative, and such a one may well be printed in any process. It has sufficient contrast to give a good print in carbon or platinum, while at the same time it is not too harsh to give a good print in P.O.P., and it is only a matter of giving longer exposure in bromide printing or enlarging to get equally good results in that process. I have brought you such a negative this evening, and if you always make negatives of this type you will win the approval alike of your employers, clients, and of your fellow-employee, the printer. When you pass this stage of development you reach a negative which will still print well in platinum, later still in carbon, and then, finally, you get the negative, which is really only fit for the scrap-heap, but which you may have to print from on one of the soft gaslight papers. I have only mentioned the density of the deposit in the negative, but another factor is the color which is caused by the developer. Here, of course, if you have the yellow stain such as is frequently obtained with pyro, you very much alter the printing value of the negative.

But in addition to the variation in the negative caused by the difference in the duration of development, you will frequently have negatives in which the exposure has been for some reason quite incorrect. In Mr. Smith's lecture of a fortnight ago you probably had full instructions for the treatment of such negatives, including the operations of reduction and intensification. When dealing with your own negatives, you are, of course, safe in undertaking these operations, but at Messrs. Raines, unless definitely instructed by our customers, we are not at liberty to so treat the negatives, and are thus compelled to vary the paper to suit the negative. I do not know whether Mr. Smith told you about the improvement you could get by making a new negative by means of a transparency. Here are two negatives which illustrate this point admirably. The commission given was for copies in carbon of a series of paintings in a country house. Many of them were high up on dark walls, and there was the not uncommon restriction that they were not to be moved. Under the circumstances, the result I now show you was not so bad as it appears. My friend who has lent me this negative asked us for a print in carbon. This we obtained by making a dry-plate transparency, and from that another negative. Incidentally, you will see that besides giving the proper density for a carbon printing negative, our operator, by tilting his easel, was able to completely remove the distortion so plainly visible in the first negative.

I hope I have not dwelt unduly long on this subject of the suitability of negatives for the different processes, but it is one that your principal sug-

gested as being of interest. Put briefly, it comes to this—if you expose correctly and then develop sufficiently long to obtain what is termed "average density," you can print in any process. If your aim is speed only, then you may develop for a thinner negative in which you can print and enlarge easily in bromide.

Returning now to P.O.P. You will find that it prints most readily from negatives that are thinner if anything than the average density negative I have just shown you. Where you have a very thin negative, placing green glass over the frame will help you, while if you have a very dense negative it may be printed in direct sunlight.

I do not propose to give you any formulæ this evening—my best advice is to "go by the book," that is, follow the printed directions enclosed in each package. There is very little difference in the results obtainable upon the leading makes, but all the same there are slight differences in the manufacture, and how these may best be worked has been determined in the specimen printing-rooms of the makers, and this knowledge is embodied in their working instructions.

One note of caution is that your toning, if you wish to get the uniform color which is so desirable in commercial work, must always be done by the one light—a certain stage of toning which appears one color by daylight will appear quite different by artificial light. Seeing that daylight varies both on account of the weather and also with the changing seasons of the year, the only way in which to ensure uniformity is to curtain off a corner of the workroom and tone by artificial light.

While a great deal of commerical work is done upon P.O.P., the greater part is done upon bromide, chiefly because of the rapidity with which the prints may be made. Bromide also scores by virtue of the fact that an enlargement may be made without first making an enlarged negative, as is necessary with other processes. To all workers having any respect for their craft, this modern spirit of "rush" is distasteful. Very seldom is any really useful purpose served by thus "speeding up." The client whom you oblige today by making a negative and print in a hour or so regards it as a favor, but tomorrow expects it as a right. However, this is but a pious expression of opinion on my part—I know quite well that the photographer cannot tell his client that such haste is not compatible with the dignity of his craft, and that instead of our generation having more leisure than our fathers as a result of our "hustle" during business hours, all it has is more neurasthenia and kindred nerve troubles. No, you cannot do this, and if you ever experience the regret I have just expressed you must temper it by the sporting satisfaction one feels at making a "scoop." I confess that I feel the satisfaction more often than I do the regret!

Bromide, then, is the paper you will probably use most, just as it is used so largely by the other branches of the profession and also by the amateur. It is this great demand that has induced the manufacturers to devote so much care to its production in respect of both the uniformly good quality and in the variety of surfaces obtainable.

How useful is this variety of surface even in commercial work I can illustrate by a recent occurrence. A manufacturing town in Scotland was trying to get a bill to construct a new sewage scheme, the outfall being at a point on the coast which is by way of being developed as a holiday resort.

A series of negatives was taken of this place and printed on Wellington canvas-grain bromide sepia-toned and tied up in an attractive booklet. When it was argued that the outfall would be below low-water mark, more negatives were taken showing the coast with the exact spot quite clearly, and these were then printed on the carbon surface.

This variety of surfaces, then, is a reserve of power, as it were, and you will do well to make yourself familiar with the results thus obtainable. You will find that the one negative will give widely varying results on the different grades of even one make, and still more so when you come to try different makes. I have noticed many photographers when they have to use bromide do so on the platino-matt surface. Where brilliance is desired this is the least likely to be satisfactory, and with at least two well-known makes it does not yield so pleasing a sepia tone. Smooth or rough ordinary are both more likely to prove satisfactory.

As to developer, I think you will find most workers who make many bromides use diamidophenol, although the makers all seem to give the choice between this and metol-hydroquinone. The latter developer is preferable for the gaslight papers.

For sepia toning our preference at Ealing is for bleaching with potassium ferricyanide and bromide, and then sodium sulphide—"stinker" as it is familiarly termed. The great superiority of this method over the hypo-alum is in its freedom from blistering. I must warn you that to obtain a good sepia tone your exposure must be correct to begin with.

Of great service to the bromide worker is the "faker"—that is, the reducing bath of iodine and potassium iodide. This may be used for either local reduction, as, for example, taking out a dirty sky in a landscape, or else when one has to make a print from a very thin negative, it is first exposed and then developed until no further darkening of the shadows can be seen. By this time the high-lights are, well, high-lights no longer; but after fixing and washing the "faker" clears them. I ought, perhaps, to say that the print has to be fixed and washed again after this treatment.

The platinum process is one which yields very fine results, and, as I have already said, you will be frequently asked for it where absolute permanence of the prints is required. A friend of mine, a well-known photographic journalist, says that absolute permanence is a misnomer—a photograph can be no more permanent than the paper upon which it is printed. Be that as it may, the term is in general use as applied to both platinum and carbon.

Mr. Willis, of the Platinotype Company, patented the process bearing that name in 1874, and although other platinum papers have been placed on the market from time to time, Platinotype has been practically without a rival until quite recently Messrs. Gevaert have brought out a series of platinum papers upon which very beautiful results may be made.

In the manufacture of platinum paper the raw base is coated with ferric oxalate and chloroplatinite of potassium. According to E. J. Walls, "the basis on which the process is founded is the reduction of ferric oxalate by the action of light into ferrous oxalate and the reduction of a platinum salt by the ferrous oxalate in the metallic state when wetted with a suitable agent." This agent is oxalate of potash. After development the prints are cleared in at least three baths of pure hydrochloric acid.

The great essential in platinum printing is absolute dryness, as the least trace of moisture injuriously affects the prints. The paper comes in sealed tins, in which is packed some calcium chloride, a substance which absorbs the moisture from the air. For working, the paper is kept in storage tins also containing the calcium, but it is always well to buy the paper in such size tins as to involve as little as possible being out of the maker's tins at a time. Unless you are using a great deal of paper, it is therefore better to buy four six-sheet tubes than one twenty-four sheet. The precautions against damp must be observed all through printing, the negatives and frames both being kept quite dry. For this reason it does not do to leave a half-exposed print in the frame through the night, as may be safely done with a P.O.P. print. If toward evening you are doubtful whether there will be enough light to finish a print, it is better not to run the risk, unless you can do as we do at Ealing during the winter months, and that is finish printing by electric light. For many years now I may say that during the winter months our platinum printing is done entirely by electric light —either the enclosed arc or mercury vapor.

And now we come to carbon—to my mind the finest process. Not that I think, as is done by many, that you can render all that there is in a negative better in carbon than in bromide. We at Messrs. Raines, who are not interested in the manufacture of any materials, have long satisfied ourselves on that point. Where carbon is superior to bromide is in the ease with which prints of widely differing appearance may be made solely by varying the colors of the tissues and the supports upon which they are transferred. In bromide the production of any color but black involves a separate toning. In saying this I ought to qualify it by saying that papers are now being put on the market in which various shades of sepia may be obtained by direct development.

While a knowledge of platinum printing may be acquired fairly easily by the ordinary silver printer, carbon printing is so different in all its manipulations that the silver printer finds that his previous knowledge counts for practically *nil*. It is largely from this difference that the idea has arisen that the carbon process is difficult to learn, and undoubtedly many have therefore refrained from making the attempt. The Autotype Company has therefore recently taken the wise step of giving a thorough course of lessons free of charge to young photographers and others who are likely to be able to put the knowledge to practical use.

The theory underlying the process is that gelatine when treated with an alkaline bichromate becomes insoluble in water when exposed to light. So, therefore, if carbon together with any desired coloring material is contained in such a gelatine, it follows that when exposed under a negative the various parts will be soluble or otherwise according to the amount of light action which has taken place.

In practice, the tissue, as it is called, is bought either sensitized or unsensitized. In the former state it will keep in good condition for about a fortnight.

I do not think it necessary to describe the process any more closely than is necessary to explain the difference in the meaning of the two terms, single and double transfer, since I know from my own experience that photographers who are familiar with other processes do not understand these terms.

After the tissue already mentioned has been exposed under the negative (the image is not visible, and so printing has to be done by means of an actinometer), it is brought into contact with a piece of transfer paper and then squeegeed into contact. After soaking, the paper on which the tissue was coated is peeled off, and development is then carried out with hot water, but you will see that this gives you an image which is reversed from the original, *i. e.*, right becomes left and *vice versa*. This process is called single transfer, and to overcome this disadvantage of reversal, when an enlarged negative is made for carbon it is reversed during the making, so that the single transfer print will be the right way round when looked at.

In the double transfer process, instead of the exposed tissue being squeegeed to the single transfer, a paper called temporary support is used, and development is carried out as in the single transfer process. The print on this temporary support is, of course, reversed, but by transferring to the "final support" the image is brought the right way round, and thus, by the double-transfer process, original negatives may be printed from. You will, therefore, see why double transfer is a longer and consequently more expensive process, and also why when an enlarged negative has been made on purpose for carbon printing its reversal will prevent its being used for giving prints in platinum.

COLORING PHOTOGRAPHS

WE have had several inquires lately about coloring photographs. We will probably give, later in the year, a few notes on miniature painting and on the working up of enlargements in color.

We give here a few examples on the simpler ways of coloring—useful to those who have not made a study of painting or drawing, but who may have a demand—or be able to create one—for tinted pictures:

There are two distinct methods of coloring prints—from the front and from the back—and of the two the former, if done with true artistic taste, is preferable; the latter, however, is much easier and requires absolutely no skill. The materials used may be either water or oil-colors, or aniline dyes, though if the latter are used great care must be taken to choose those that are stable.

The materials required are: Brushes. Red sables should be used for water-colors, not camel's-hair brushes; and for oils, one or two flat hog-hair of medium size, one or two smaller ones, one or two stumpy ditto, and one or two small flat sables. For water and oil-color painting the following pigments are permanent: Chinese white, light red, vermilion, carmine de Garance, madder lake, cadmium yellow, aureolin, cobalt, emerald-green, sepia, burnt sienna, raw sienna, lemon-yellow, ultramarine, terre verte, yellow ochre. For water-color painting these pigments can be obtained in the shape of powder and mixed with the following medium:

Clarified albumen	1 ounce.
Ammonium carbonate	20 grains.
Glycerine	20 minims.
Ammonia	1 drop.
Distilled water	½ ounce.

To clarify the albumen, obtain the whites of two eggs, beat to a froth, and allow to settle for twenty-four hours

and filter; or obtain dried albumen from any dealer; of this, dissolve 20 grains in 1 ounce of water made slightly warm, add the glycerine and then the ammonia and carbonate dissolved in the ½ ounce of water. Filter the mixture and keep in a stoppered bottle. Large quantities of this should not be made up, as it soon decomposes; a preservative, such as boric acid, may be added to the above in the proportion of about 1 grain to above quantity.

Although water-colors obtained dry are generally used by advanced workers, the beginner should get the "moist" water-colors as being less troublesome to work.

For oil painting the tube oil colors should be obtained, and to thin them down meglip or medium should be used; a very good medium which dries quickly is mastic varnish, made by dissolving gum mastic 1 part in pure oil of turpentine 10 parts.

All those who have tried know how difficult it is to make colors take well to the surface of prints, and it is usual to prepare the surface in some way, and there are two methods: The first is to lick the print all over; the second is to use a solution of ox-gall. Purchase from a chemist the purified ox-gall, which is a thick greenish-yellow paste, and dissolve this in water and spirit. Sixty grains of the purified gall dissolved in sixteen ounces of distilled water, and four ounces of wood alcohol added, will make a solution that will keep, and which can be applied to any print with a flat camel's-hair brush, and after this treatment, when dry, the print will take both oil and water-color readily.

After the surface has been treated the color should be applied, and for the delicate tints, such as those of the flesh, etc., a stipple or cross-hatch should be used, almost as in retouching, and it is only in the deeper shadows that anything like deep broad strokes should be made. The photographic image will, if you allow it, at least with water-colors, always give you shadows and deeper shades, and it is only when the color is laid on too thick that difficulty will be experienced in obtaining the shades.

For enlargements it is advisable to mount on canvas with clarified fish-glue while both are thoroughly damp, allow to dry, and then flow over the surface some size, prepared by dissolving 4 ounces of gelatine in 20 ounces of water by the aid of heat, and set up to drain and dry.

The foregoing methods all require considerable artistic skill, but the following can be done by any one, even by a child of about twelve or fourteen years of age; the only care required is to keep to the outlines of the printed image. It is more applicable to albumen than to gelatino or collodio-chloride prints, because the supports of the latter are too thick. Obtain a fairly deeply printed albumen print, and soak in water until thoroughly limp, remove it, and blot off the superfluous moisture with blotting-paper. Procure a plain oak picture-frame the required size. Give the front of the frame a coating of fish-glue, and press down firmly on to the paper side of the print, lift the print and frame up, smooth the edges of the print on the frame, and use a roller squeegee to take out wrinkles or folds, then rear the whole up to dry; when thoroughly dry it can be prepared for painting.

Procure a good-size varnish-mop, some japanner's gold size and boiled linseed-oil, and mix the last two in equal proportions, and add one eighth of the volume of castor-oil. Pour some of this mixture into a saucer and dip the varnish-mop into the same, and give the paper a thorough

good soaking until the grain is scarcely perceptible and it is almost transparent; leave for twelve hours reared up against a wall in a warm place free from dust to dry. At the end of this time, with some clean dry blotting-paper, blot off any oil which has soaked through the albumen surface. The varnish should now be nearly dry, or so tacky as only just to hold the finger when applied.

Support the frame at an angle of forty-five degrees over a looking-glass laid flat on the table, so that plenty of light is reflected through it, and with the proper brushes begin to paint with the oil-colors, using mastic varnish as a medium. It is unnecessary to use any art; the paint of the desired tint is merely laid on in broad streaks, keeping only within the outliues, and the photographic image gives all the delicate play of lights and shades. It is astonishing how wonderfully effective are prints thus treated.

When the paint is dry on the back of the print a sharp knife run around the inner side of the frame will detach the picture, and it can then be mounted behind a cutout mount and framed if desired.

To color prints with aniline dyes is not a difficult matter. The real difficulty lies in obtaining stable dyes. For those who wish to attempt, the easiest way to set to work is to purchase some packages of the diamond dyes, which can be obtained at almost any store; turn the contents of the package into a 4-ounce bottle, and add 2 drams of glacial acetic acid and fill up with water. The acid not only helps to dissolve most of the dyes, but also acts as a good medium, for if the solution will not take kindly to any print, the addition of glacial acetic acid will immediately make it take. Such solutions should not be used too strong, and it is preferable to apply two washes rather than one deep one. Always allow one wash or color to dry before applying another over it or next to it, and if care is used there will be no running together. A selection of fine sable brushes should be at hand.

NEW BOOKS

CHILE AND HER PEOPLE OF TODAY. An Account of the Customs, Characteristics, Amusements, History, and Advancement of the Chileans, and the Development and Resources of Their Country. By NEVIN O. WINTER. Pp. 401; bibliography and index. Illustrated from original and selected photographs by the author. Boston: L. C. Page & Co. Price, $3.00 net.

To most of us Chile is just "one of those South American Republics where they raise little else but revolutions." We have to thank Mr. Nevin O. Winter for an interesting and entertaining account of a country that is well worth a better acquaintance. We sometimes think of the United States as the sole possessor of a complete, practical, and satisfactory constitution, but when we read that in Chile the president is chosen by electors who are elected by a direct vote, for a term of five years, and that he may not serve two consecutive terms, and may not leave the country during his term of office or for one year after its expiration, it will be seen that Chile has solved some of the problems that are still bothering

us. In more mundane affairs it is interesting to learn that Valparaiso, a seaport almost as large as San Francisco, has an excellent street transportation system with double-decked cars with a two-cent fare for the lower and a cent for upper seats. The book is interesting throughout, and you leave it with a better understanding and appreciation of the country and its people.

The Spell of England. By JULIA DE WOLF ADDISON. 425 pages, index, and bibliography. Illustrated. Price, $2.50. Boston. L. C. Page & Co.

The latest addition to the Spell Series, in which Italy, Holland, and France have been treated, discloses the spell under which the traveller falls,

who wanders with an open mind along the highways and byways of England. The author is well equipped by a long residence in the country to describe that elusive, indefinite feeling of quaintness and charm that clings to so many of the old places in the nooks and corners of Old England.

Miss Addison visits and describes many of the old cathedral towns, castles, and stately homes of England, and dwells more upon the traditions and local stories that have gathered around them than upon their historical or architectural features. The numerous illustrations are from photographs specially made for the book and are well reproduced. It is an interesting book from beginning to end, and will be enjoyed as much by those who know England from travel or residence as those who only know it from reading. Well printed and handsomely bound in decorated covers, it will make a safe and acceptable gift book.

Photographic Copyright. By GEORGE E. BROWN, F.I.C., and ALEXANDER MACKIE. London: H. Greenwood and Co. 50 cents.

This volume, from the office of *The British Journal of Photography*, is a working guide among the intricacies of copyright law for any photographer having occasion to dispose of the rights of reproduction in his photographs. This guidance is, of course, based upon the British Copyright Act which came into force on July 1 last, but the authors do not fail to deal with past judgments in the courts under the previous Act. In some cases such judgments apparently are modified by the new Act, but hold good in others. The rights of a photographer in reference to the photographs taken of sitters in various circumstances, and on the other hand, the rights of sitters in their photographs, are explicitly dealt with, so that the volume forms a reliable aid to portrait photographers in deciding business disputes which are at times somewhat perplexing. Conditions of obtaining copyright in foreign countries, and particularly in America, are fully dealt with. The

pages are freely cross-referenced and a full index is provided, so that as a working guide the volume should discharge its purpose efficiently.

Three Wonderlands of the American West. By THOMAS D. MURPHY. With 16 reproductions in color from original paintings by Thomas Moran, and 32 duogravures from photographs. Also maps of the Yellowstone, Yosemite, and Grand Canyon regions. Boston: L. C. Page & Co. Price, $3.00 net.

"See America First" is being strongly urged upon our vacationists, so many of whom rush to Europe to see the sights. Such a book as the one we are reviewing will do much to turn the tide of travel westward. The author gives a graphic description of the beauties and wonders of the golden West and where description fails he is helped out by clever color reproductions of Moran's famous painting and duogravure reproductions of clever photographs. A book that kindles a strong desire to go and see for oneself the wonderful riot of form and color displayed in the National Parks of the West. It will come as a revelation to many who have had a vague notion that there may possibly be something worth seeing in America.

A Handy Dark-room "Brush." For applying solutions, wiping out dishes, and miscellaneous purposes, I use a very handy "brush" made by taking a small, wide-mouthed bottle, "three ounce" is a convenient size, and stuffing into it a sponge of such dimensions that about half the sponge is outside the bottle, the neck gripping it with sufficient firmness. Such a "brush" can be thoroughly washed by pulling out the sponge, it is cheap, it has no metal parts likely to affect the solutions with which it may be used, and it also has the great convenience of standing on end so that the sponge itself is not in contact with the bench or sink.—*Cyril Norton.*

TRADE NOTES

BURKE & JAMES, INC., of Chicago, have been appointed wholesale distributors for the Edison Home Kinetoscope. It is their intention in handling this article to follow their established policy of not selling to consumers, but of doing everything possible to create a demand through dealers in photographic supplies. Our understanding is that these machines are liable to get into the hands of the phonograph dealers unless the photographic supply dealers take immediate advantage of the opportunity of securing the local agency for their community.

The projection business is one more closely related to photographic supplies than to musical instruments. It is a line which cannot but help to increase in volume, and it will, therefore, be an unquestioned stepping stone to a larger and more profitable business for photographic supply dealers.

Not since the invention of the phonograph has such a step in home entertainment been

taken as is represented in the latest invention of Mr. Edison. The Home Kinetoscope is a perfect moving picture machine at a price within the reach of the average American family. The initial cost is practically the only one, as the films can be exchanged as often as desired for a nominal sum. The ideal combination of entertainment and education for every member of the family is fully realized in the new Edison machine. Eighty feet of the film used on this machine equals 1000 feet of that used in the moving-picture theatres. This is because there are three rows of pictures on each film, which are run off successively. The machine is made to conform to the Edison Laboratory standards, and is so simple to operate that a child will find no difficulty in projecting pictures without any possible danger of accident as the film is absolutely non-inflammable.

The machine is adapted for either electricity or acetylene gas. In addition to the moving pictures it projects a special lantern slide which is about one-twentieth the size of the regular slide. There is an immense variety of film subjects and lantern slides to choose from.

Dealers and others interested will do well to apply to BURKE & JAMES, INC., regarding this wonderful instrument.

To stimulate interest in show-window decoration *The Photographic News* has offered prizes of $50.00 in gold for the best display of photographic goods made by dealers before December 21, 1912.

The rules are simple. Send a 5 x 7 picture of the window, together with a full description of its contents, to the Window Contest Editor, *Photographic News*, 42 E. Twenty-third Street, New York City. The contest is open to all dealers without restrictions. Full details are to be printed in the *News* for October.

THE IMPERIAL FLASHLIGHT PLATE, the fastest Imperial plate made, has a speed of 350 to 375 H. and D., and is specially recommended for all flashlight work. Although ultra-rapid these plates are comparatively free from objectional coarseness of grain. They are good for reflex camera use and portraiture under adverse light conditions. They are retailed at standard prices by G. GENNERT, 24 E. Thirteenth Street, New York, and 320 S. Wabash Avenue, Chicago.

THE one thing surer than death and taxes is that a photographic print will curl in the process of drying, and until such times as we get prints that are developed. fixed, and washed without the use of water we suppose they will continue to curl. Photo-flat has now been on the market long enough to demonstrate the truthfulness of its name. With the use of Photo-flat the curling tendency of dried prints has been overcome. An application of this dope to the back of a print will take all the curl out and leave a beautifully flat and even surface with just the slightest tendency to curl backward, the only proper curl for any print. Photo-flat is guaranteed to do its work, and is sold in 4-ounce bottles at 35 cents, one pint $1.00, or $1.75 per quart. Get some at your dealers and save yourself a lot of trouble.

WE have just received from KREPS & STELLING, Augusta, Ga., a catalogue of Rodenstock lenses, for which they are the American agents. It is a handsome and cleverly compiled catalogue and describes a line of high-grade lenses that have a reputation for quality. They are more moderately priced than some high-grade anastigmats but fully guaranteed as to quality. A copy of the catalogue will be mailed in receipt of 4 cents to cover postage.

ARTATONE, the new Japanese tissue printing paper, is becoming popular. The unusual and artistic effects obtained by this new paper are worth looking into. It will please your customers with an artistic leaning and its manipulation is of the simplest. Give it a trial. Any dealer, or direct from HERBERT & HUESGEN CO., 311 Madison Avenue, New York, trade agents.

BIG profits are often made from small items in a business. Careful buying and a close attention to details build up the margin. Take Eastman's Testut carbonate of soda; it's as easy to buy as any other variety, yet it saves you 20 per cent. A notice on the bottle reads: "This carbonate of soda is of such exceptional strength and purity, that in compounding formulæ in which Eastman carbonate of soda is not specified, one ounce should be used in place of three ounces of crystals or in place of one and a quarter ounces of desiccated of other makes." A small matter, perhaps, but it works to your advantage on almost every formulæ you compound.

THERE must be as many varieties of sepia as there are pickles. If you are not satisfied with the variety you are getting, you might try Platora. We have produced sepia prints with this paper that we thought were about right. They may please you. Write THE PHOTO PRODUCTS CO., Dept. C., 6100 La Salle Street, Chicago, and they will send you free samples.

YOU can increase the selling qualities of your negatives by increasing the attractiveness of your prints. A sure way to do this is to use such helps as the Paragon Border Negatives, made by the EASTMAN KODAK CO. A poor print is helped and a good print shown to better advantage when framed up with an appropriate border design. They are made in various styles and sizes, and can be adapted to any kind of work and show it off to the best advantage. Ask your dealer for a copy of the Paragon Border Negative Booklet or write the KODAK CO., Rochester, N. Y., direct.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor
MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK
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EDITORS' TABLE

How to produce artificial daylight seems to have been discovered almost simultaneously in England and Germany and the results promise that artists will soon be able to paint by "daylight lamps," and that art classes may be held in the night time. Housewives will not have to wait for a bright day in order to match dress materials.

Dr. C. E. Kenneth Mees, of the Eastman Kodak Research Laboratory, who has been working on the new idea in England, in a lecture described to the Illuminating and Engineering Society of London successful experiments with the new invention. "Daylight lamps" were originally intended for measuring the sensitiveness of photograph plates. He stated that he first constructed a filter by means of dyes adjusted to follow a spectro-photometer curve, which after an initial failure was satisfactory for his own work, but was not a permanent affair and hence he devised another with permanent dyes.

The difficulty was to find a satisfactory blue. He recently discovered this and got a permanent as well as an almost perfect resemblance to daylight. However, light-power loses by absorption 85 per cent. Therefore, so far it was only suitable in small rooms, but was most useful in the correct matching of delicate shades.

Simultaneously Dr. Voege, of Hamburg, contributes to the Illuminating and Engineering Society's organ an elaborate description of his method of studying color by artificial illuminants, showing the effects of gas, electric, and the existing daylight lamps on colors, as compared with daylight itself. The Doctor shows that most of the present illuminants have an excess of red and a deficiency of blue.

In the German "daylight lamps" an enclosed arc, is screened with suitable absorption glasses and the resultant light approaches daylight closely in blue and green, but there is a deficiency in red, which it is thought can be remedied by a combination with carbon filament lamps.

Art galleries and other large buildings may be expected to be made like daylight at night by an improved type of inverted arc lamp if the flickering can be overcome.

THE following urgent appeal was received from a photographer on "India's coral strand," and needless to say, we responded promptly to relieve his "too eager" feeling.

"We intend to get your PHOTOGRAPHIC MAGAZINE on each month, therefore kindly send us a copy of your PHOTOGRAPHIC MAGAZINE urgently on receipt of this letter but not delay in sending, we will pay for them of one year on receipt of your Magazine. We hope to receive your magazine urgently because we are too eager to see it; so that please send it quickly but not delay.

Awaiting your further answer.

Yours faithfully,
T. R. Bros, Bhavnagar, India.

A NEW developer just discovered by a Frenchman is said to be:

The most efficient photographic developer of the hydroxydiphenylamine derivatives is *p* amino-*p'*-hydroxydiphenylamine-*o*-sulphonic acid known as "Sulphinol." It is slightly soluble in water, but readily soluble in alkalies and alkaline carbonates. It gives soft images of good gradation with pure whites; under normal conditions the image appears in about three minutes and development is complete at the end of seven or eight minutes. The developer is very sensitive to bromide. With such a name it should be sensitive to anything.

SHADES of that Midsummer Night's Festival! at Philadelphia last July! The following is an extract from the report of the Ohio State Convention at Columbus, O., 1894. "The banquet at the Collins garden was an enjoyable affair. C. L. Lewis, of Toledo, sang a selection. G. B. Sperry recited a German dialect very effectively. Hetherington whistled, and Lewis and Ebersole gave a duet. A young lady of Columbus recited a poem very acceptably. A cold collation was enjoyed and the orchestra made everybody happy until nearly 11 P.M., when all left for home, pleased and weary." Among those present we notice the names of L. A. Dozer, E. B. Core, well-known present-day conventionists.

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Vol. XLIX ÷ ÷ ÷ ÷ No. 670

OCTOBER, 1912

WILSON'S PHOTOGRAPHIC MAGAZINE

DEVOTED TO PHOTOGRAPHY MONTHLY: ILLUSTRATED

$3.00 A YEAR

SINGLE COPY, 25 CENTS

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OUR PICTURES:

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EDWARD L. WILSON
122 E. 25TH ST : NEW YORK

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WHEN a lawyer in making his address in behalf of a client can only offer high falutin' claims unsupported by proof or fact, the client generally goes to jail and the lawyer is labeled a "hot air jammer."

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with the consuming photographer because every photographer in the country has been furnished with proofs and facts of Cyko superiority.

His printing room is putting daily those proofs to the test.
His show case contains the evidence.
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Never have photographers been so critical as now in their desire to get at the heart of the matter and sift out the truth "from the chaff which the wind bloweth away."

Ansco Company

Binghamton, N. Y.

By KATHERINE JAMIESON, Pittsburg, Pa.

President Women's Federation, P. A. of A.

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. XLIX OCTOBER, 1912 No. 670

MORE BUSINESS

THE summer just passed was, for Great Britain, the worst summer on record. The weather was abnormally cold, the rainfall was excessive, and sunshine was almost unknown. For part of the time a good part of the people were going to and from their homes in boats on account of the flooded condition of the country.

With such strongly "anti-photographic weather" you would naturally think that photographic business would have suffered very heavily. It is almost unbelievable, but business boomed in spite of the cold, the rain, and the sunless, cheerless days. We have before us the advertisement of one of the largest photographic manufacturers in England, and this is what they have to say:

"In spite of the weather, in spite of the fact that this summer has been about the coldest and wettest on record, there has been a boom in our business. Some of the largest retail dealers in the Kingdom, on paying their July accounts, drew attention to the fact that they were sending us the largest check they had ever drawn in our favor."

Here we have a business more dependent upon good weather than any other showing an increase under the most adverse condition. What is the explanation? It is given in the advertisement, which continues as follows:

"No doubt about the matter—the boom was due to our great advertising campaign of interesting thousands of new people in the art of amateur photography; advertising on progressive lines and making thousands of converts to the joys of picture-making."

You might say that what happened in England is no criterion for conditions here. True, we have very much less rain and very much more sunny weather than our friends across the water, but we are having a Presidential year with its traditional business depression. Many a photographer who is finding business quiet will blame it on the "Presidential year" bogey. Let him take a lesson from the above extracts. The same manufacturer who boomed business in a decidedly off year in England, is spending thousands of dollars every month, advertising in the big national magazines of this country, interesting thousands of people in portrait photography. Not a word about his goods, not a name mentioned, just a few well-chosen sentences urging the desirability of being photographed.

"There's a photographer in your town" means your studio. Big business is being created and the photographer who bestirs himself, who does his share of local advertising, will reap a rich reward, and find that, regardless of Presidential elections, political excitement, or other excuses, his business is booming.

The number of people who have not been photographed is altogether out of proportion to the number who have. There would be fewer automobiles if they were not so extensively advertised, and there would be lots more photographs if there was a little more advertising.

ANOTHER DANGEROUS BILL

IT is a common complaint that modern legislative bodies make altogether too many new laws and we suffer for the follies of our lawmakers.

A bill that is now before Congress and that is against the best interests of the photographer is the Oldfield Patent Revision Bill, which is now on the calendar of the House of Representatives and will come up for consideration when Congress reconvenes in December next.

The second section of this bill seeks to deprive manufacturers of the right to regulate prices; this will result in a loss in incentive to acquire reputation for an article or a name. If Congress says that the makers of goods that are called for by the public by name, so that it becomes essentially a deal between the manufacturer and the consumer, are to have no control over the price which the consumer pays, then there will be no use in trying to work up a national demand for goods of guaranteed quality; then there will be no use in trying to work up a national demand for goods, because the money spent in advertising and creating a demand will react against them and cause price-cutters to pick out the goods as marks for attracting trade to themselves and demoralize the rest of the manufacturer's trade.

If there is to be no price protection there can be little or no reliability on the quality or standard of goods sold, and with price cutting, adulteration and lowered standards must prevail. If the manufacturer cannot control, within reason, the selling price of his factory product, he will be less liable to be interested in the ultimate consumer. In the case of photography it is essential that there be a close connection between the maker and the user.

If a fixed price is to be maintained, the manufacturer will stand behind the retailer and take care to see that he is retailing only fresh, standard goods. When price cutting begins the price cutter will be left to take care of himself, and he will—at the expense of the consumer. You can be quite sure that when a standard dry-plate or developer is offered at one-half its regular price, there is a nigger in the woodpile.

It is to your own interest to have prices fixed. Competition will take care that profits do not get unreasonable. You must have confidence in the product you are using, and the manufacturer, to maintain a guaranteed standard, must have a steady market and a fixed and reasonable price.

Read the announcement elsewhere in this issue and then see or write your Congressional representatives or candidates. It is a matter of importance to every photographer, professional or amateur.

THE PORTRAIT POST-CARD PLUS THE AUTOMOBILE

BY E. FREY

In a recent issue of this magazine there appeared this very interesting and pertinent query and statement of facts: "Why is there so little money spent on photographs, while such fabulous sums are spent on automobiles, pianos, and graphophones every year in this country, etc.?" There is vastly more in the above little paragraph than appears on the surface. It is in reality a question of vital importance and should interest the entire photographic world, and especially so in view of the fact that photographs have, within the last few years, jumped from the popularly accepted tenet that they were merely secondary luxuries to a position which compelled the admission that they must be ranked and reckoned as utilities and necessities. Notwithstanding this fact, the only fields in which photography—as a business—has held its own and can show a gain are those in which its application comes to bear on the commercial, industrial, and scientific lines.

In opposition to the above, it has become evident to the majority of photographers that portrait photography—as a business—has been anything but a howling success during the last few years. "There's a reason," as Mr. Post would say, or, in the language of one Shakespeare, there seems to be "something rotten in Denmark." I am not trying to perpetrate a bull when I say that one of the prime reasons why so little money is spent on photos is *because* it is spent for those luxuries. Before proceeding, let me say that this is not intended as a treatise on or even an attempt at political economy; but simply a presentation of deductions that came to me in trying to digest the evident truth of that little paragraph.

There has developed in our economic and industrial conditions within the last few years two factors which have done more to reduce the photographer's income than all the other causes combined, and these two factors are the automobile and the portrait post-card. It may sound paradoxical that the automobile, the symbol of wealth, on the one hand, and the post-card, the embodiment of picture cheapness, on the other, should have that effect. It seems to be an established fact, nevertheless.

It is generally conceded that the American nation has become notorious for its wastefulness and love of luxury, and that at the same time the standard of living has been raised out of all proportion year by year. Things and amusement which our fathers considered the height of extravagance and luxury have, in *our* eyes, become necessities and part and parcel of our every-day requirements; and the most deplorable part of the matter is that these conditions are to a large extent attributable to the insane desire of "keeping up with Lizzie," but this, as Kipling says, is another story.

"What has all this to do with photographs and photography?" you ask. It certainly has a great deal to do with it if we take into consideration that, of all lines of business, photography and particularly portrait photography is the one *most* sensitive to fluctuations of social and economic conditions.

Your own observation will show that the purchase of automobiles is not restricted to or monopolized by the man of surplus means, but is proportionately much more indulged in by the so-called middle class, the class from which you are supposed to draw, and have drawn in former years, your *main* sustenance. You know that the average financial condition of that class has not, for obvious reasons, improved; in fact, it has become much less favorable. Part of the money which formerly found its way to the photographer's pocket is now salted down to meet the installments or notes on the buzz bus, and the worst feature is that the automobile, unlike real estate, does not enhance in value but depreciates with every day's use; and that the owner is therefore just that much the poorer at the end of the year. I believe an examination of your books will bear me out that you are proportionately receiving more orders, better orders, and repeat orders, from people who do not own autos, than you do from those that do.

But, after all, the inroad which the automobile has undeniably made on the photographer's pocket-book is as nothing in comparison to that of the portrait post-card. Portrait postals are undoubtedly the greatest menace and most perplexing problem that has ever confronted portrait photography. When that class of goods first made its appearance on the market, it was regarded in the light of a novelty or fad, and all classes of people, rich and poor alike, had such photos made "just for the fun of it," as they put it. In the meantime this fun has developed into a most serious joke on the photographer who, by force of circumstances, was compelled to enter that field.

When I use the term "force of circumstances" I am using it advisedly; but I do not mean to imply that he was forced to do so from sheer poverty, but as a means of self-preservation, because the postal had ceased to be merely a novelty or fad, and had assumed the character and proportion of a photographic staple. People no longer come to you now and tell you shamefacedly that they want postals just for the fun of the thing, but that they want them because they meet their requirements and fit the size of their pocket-book. It is on account of these facts that the problem becomes such a difficult one to deal with in anything like a summarily manner.

There! I hear some one shouting: "Why don't you cut 'em out?" This is, under the prevailing conditions, much easier said than done. You may just as well tell the grocer to cut out sugar and coffee, and the drygoods man to cut out *his* staples. Those goods are not handled by them because of their profit (?) but because they are in universal demand. Any article becomes a staple when there is an insistent and persistent demand for it, irrespective of its money value or profit on same; it may be a paper of pins or a piece of real estate, or, as in our case, post-card photos.

There certainly would be no serious objection to the dominating position which the postal has assumed were it not for the fact that, owing to its low price and immense output, it reduces the *average* on all the higher class work. The same people who formerly never thought of paying *less* than $3.00 or $4.00 per dozen, tell you now that the postal is "good enough for me."

I am not pessimistically inclined, and this is not a calamity howl; but when you consider that even as short a time as four years ago the price received for your work would *average* approximately through the month or

year from four to six dollars, and that this average has now been reduced—through the ascendancy of the postal—to less than one-half that amount, you will realize that the postal is certainly cutting *some* swath; I am therefore glad to note that some of our State Associations consider the matter of sufficient importance to bring it up for discussion in their conventions.

There are, of course, hundreds of photographers who do not make postals, men who tell you *they do not have to* make them, men whose eminence in the profession perfectly justifies that exemption; but I do wonder if even those men realize the direct and indirect effect of the insidious postal on *their* business? You can not throw a pebble into a pond of water without causing the ripples to radiate in all directions. That the post-card not only affects the photographer himself, but the entire industry must be apparent. On every thousand post-cards turned out the card manufacturer practically sustains a loss of 1000 mounts; on every dozen or half dozen the plate man loses the sale of from two to five plates (since the post-card man cannot afford to use from three to six plates on those cheap sittings), and last, but by no means least, the paper man, who should know best where the shoe pinches, since he is the progenitor, the parent, of the whole industry.

Various attempts are being made to supplant the postal with some other small-size photo at a higher price; but all these attempts have so far proved more or less futile, since none of them seem to meet the popular demand for a good, cheap picture, and there is no doubt that the well-executed portrait postal is the best *cheap* and most practical photo the public has ever had, and there seems therefore no relief until a general reversion of public sentiment sets in.

There is one peculiar feature about this post-card problem, and that is that we are actually—though unconsciously, or, at any rate, unintentionally urging—yes, almost forcing—this class of work on the public. Let me explain my meaning:

I presume that the emulsions used on post-cards are practically and essentially the same as those used on the high-price papers; the final effect of this finished work, if it has received careful attention throughout the various stages, is so near identical with your high-price work that you really cannot very much blame the average human if he or she prefer to pay from $1.00 to $2.00 for their photos as against $6.00 or $8.00 for the same size work.

It is not an uncommon occurrence for a lady to order one or more dozen postals, have them finished on dead matte surface, white ground, and then when the work is completed and ready for delivery ask to be shown samples of your finest mounts and folders and request to have them mounted; this, of course, with the generous (?) proviso on her part that she pay the additional cost. These mounted postals are then palmed off on the unsuspecting victim as your best, high-price work. Now, if you succeed in diplomatically evading the issue she will procure the mountings elsewhere; this time under the pretense that they are to be used for hand-painted work. This pernicious practice is especially in vogue during the holiday season when your best work is supposed to find its most ready sale, and it will therefore pay you—in more ways than one—to cultivate sufficient moral fiber and backbone to politely but most emphatically sit down on the proposition with an unmistakable thud. The pious fraud mentioned above may, however, be circumvented

to some extent by using the high-gloss or semi-gloss card exclusively.

But all this is more or less incidental. The main point under consideration is simply this: That, notwithstanding the fact that there *is* at present a much larger *quantity* and a much higher quality of photo work done than at any preceding period, the photographer does not come in for as large a share of actual profit as these facts would naturally seem to indicate.

There are, of course, a number of contributary causes for this; but the principal and most palpable seem to be the expenditure of vast sums for autos, pianos, graphophones, and other such highly expensive luxuries, on the one hand, and the ever-increasing quantity of cheap work (postals), on the other hand. These may safely be counted as the two main factors. It seems but logical that if enormous sums are being spent in one direction on highly expensive luxuries, and if the bulk of that money is being spent by people who can really ill afford to do so, that there must, of necessity, follow a retrenchment in some other direction, and, as indicated elsewhere in this article, this retrenchment manifests itself *first of all* in the business of the portrait photographer, by reducing the demand for the more expensive work and the substitution of something cheaper.

In concluding this little preachment—which has already exceeded the intended length—it is consoling to note that, at any rate, photographers in the aggregate are an optimistic bunch; as a matter of fact they are almost too liberally built on the happy-go-lucky plan. You hardly ever hear them whining about *the high cost of living*, but it does seem like a rather rude awakening when they find on opening their eyes that they are indirectly paying the penalty and *the cost of high living* of the other fellow.

MAKING SOLUTIONS

BY CHAPMAN JONES

SOME of the operations that many of us perform almost instinctively prove troublesome to those who do not know how to set about them. The novice may know that he requires a solution containing a certain amount of the solid in a definite bulk, and may know exactly what these quantities are, but his difficulty is to dissolve the quantity of solid so that the final solution shall be of the required bulk. A method that serves well in one case may prove very awkward in another. The simplest method is to measure into the bottle that is to contain the solution the exact amount of water that the quantity of the solution is to occupy. Ordinary Winchester quarts, for example, hold rather more than eighty ounces, or four pints; or, for those who use the metric system, two liters is a convenient bulk of solution to prepare in such a bottle. For smaller quantities a quart, pint, liter, etc., smaller bottles will be chosen, but each will have marked on it by a label, a scratch with a diamond, or a line made with a small brush dipped into Brunswick black, the position of the top of the liquid when the required quantity has been put into it.

To prepare, for example, a plain solution of hypo containing four

ounces to the pint, four ounces of the solid are put into the bottle marked at one pint, or sixteen ounces into the four-pint bottle; water is added until it comes nearly up to the mark, and the bottle is shaken until the whole of the solid has dissolved. Or a shake may be given now and then as convenient, until the solution is complete. Water is then added to bring the bulk exactly up to the mark, a final shake is given, and the required solution is obtained.

If the weight of the solid is to be dissolved in the given bulk of water, the water is measured first, the solid substance is added, and the mixture is shaken until the solution is complete. If the solid substance is contained in a sealed tube, such as the gold and platinum salts are often sold in, the water may be measured first, and the tube, after carefully cleaning it outside, may be cut open and dropped bodily into the water. The bulk of the solid salt in such cases is so small as to be negligible.

If it is found that this method is too slow it may be quickened in various ways. The solid may be ground more finely (in a mortar) before it is put into the bottle. This applies especially to such substances as hypo, crystallized sodium carbonate, sodium sulphite, etc.

To hasten the solution the water may be warmed. If it is desired to warm it to a higher temperature than the back of the hand can bear, it would not be safe to put the warm water into the bottle. A glass flask, such as is sold by chemical apparatus dealers, should then be used, and it should be heated over either a Bunsen gas-burner or a spirit-lamp. But this method is not advisable for those who have had no experience in the use of chemical apparatus; they should be content with the slower and quite sufficient method of shaking in the bottle with cold or slightly warmed water.

Saturated solutions being those that contain as much of the solid as the water will take up, the shaking method is tedious, even if the substance is finely ground. The unground crystals should be tied up in a piece of muslin, the string tied to the middle of a pin-stick, meat-skewer, or something of the kind, and the stick placed across the mouth of a wide-necked bottle or suitable jar, so that the substance to be dissolved hangs in the upper part of the water. Solution will then go on automatically until either the solid is all dissolved or the water has dissolved as much of it as it can. The solution as produced sinks in the water, and the circulation is thus kept up to the end without attention.

The solutions of those substances that are dissolved in small proportions, as for toning baths, may be prepared by the simple shaking method, but if the crystals are rather large, such as sodium acetate, they may be crushed first. Potassium bromide, ammonium bromide, sodium carbonate, potassium carbonate, as generally used for development, or for 10 per cent. solutions, and caustic soda for any strength of solution, may be dissolved by simply shaking them up in a bottle as described. Saturated solutions of potassium oxalate (for platinum printing), mercuric chloride, alum, etc., are best prepared by the muslin-bag method. To these may be added solutions of hypo for fixing, though the simple shaking method is not very tedious in this case. A solution of crystallized sodium sulphite of 50 per cent. strength can only be prepared conveniently by heating the water in a glass flask, but a 25 per cent. of weaker solution may be prepared by either of the other methods.

It is desirable to filter all solutions before use, unless they can be allowed to stand long enough to become clear.

Supplementary Notes

Iron sulphate, ammonium carbonate, and potassium metabisulphite should each be dissolved in cold water.

Solutions containing pyrogallol, amidol, and other active developing agents should not be filtered. The preservative, metabisulphite or sodium sulphite, and the acid, if any, should be dissolved before the pyro.

Distilled water should always be employed in making up solutions that are to be kept any length of time.

Potassium ferricyanide can be kept in solution, but it is better not to do so.

Solutions of the caustic alkalies, and of sodium or potassium carbonate, are better kept in corked than in stoppered bottles. They have a great tendency to make stoppers stick.

PHOTOGRAPHS UPON WATCH CAPS AND DIALS IN SILVER AND CARBON. PRACTICAL INSTRUCTIONS WITH WORKING FORMULÆ

(Continued from page 398.)

IN my last article I described the preparation of the emulsion and the cutting of the sensitized paper. We can now take up the negative and printing. For this class of work we need clean, brilliant negatives. If these are made especially for this method I would suggest the use of a slow plate, as the negative should be strong in contrasts. Such a negative under ordinary conditions would give a hard print; but it is just what we need for watch-case work, the yellow or yellowish-red gold base showing the image to best advantage.

The negative need not be larger than two inches square. Having obtained a suitable negative of, say, a miniature for a watch-dial portrait, take a piece of orange or black paper the size of the negative, cut a hole in the centre, round or oval in shape, and attach this matt to the front of the negative, *i. e.*, on the glass, not the film side. This opening should be slightly smaller in size than the actual oval shape required for the portrait, the thickness of the glass of the negative being sufficient to produce a slight vignetting effect on the print. Now fix the miniature negative upon a piece of glass, say four by five inches, by means of strips of gummed paper. Cut a piece of the sensitized emulsion paper about one inch long and wide enough to completely cover the width of the oval in the negative. Attach the bottom end of this strip of sensitized paper to the negative by means of a small piece of gummed paper. This will not only hold the sensitized paper in position during printing, but will also give a hinge enabling us to turn the paper back for examination during printing and return the print in perfect register for the completion of the printing. The print for our purpose should be about two shades deeper than is desired in the finished picture. When the print has reached the desired depth it is toned as usual, except that for this purpose gold toning and not platinum toning must be employed.

Cut the print out with a slight white margin around the oval image, taking care that the fingers do not

touch the surface, and allow a strip of the print to form a tail-piece by which it can be handled. Wash the print in several changes of clear cold water, allowing it to soak a few minutes between each change of water; then proceed to tone in the following bath:

Saturated solution of borax . .	1 ounce.
Solution of chloride of gold (1 gr. gold chlor. to 1 oz. water) . .	1 dram.
Water	4 ounces.

The toning should be completed in four or five minutes. The print should be removed by gripping the tail-piece with a pair of tweezers. After carefully washing the print in cold water, fix in a solution of

Hyposulphite of soda	1½ ounces.
Water	10 ounces.

The print will be fixed in five minutes, after which it should be washed in a stream of running water for five or ten minutes. In washing cover the dish with a piece of clean glass, allowing the water to run in at one end, the rest of the tray being carefully covered. This will prevent the print from being washed away.

The watch-dial should now be carefully cleaned with a tuft of absorbent cotton, having been previously removed from the watch. If the figures or letters indicating the hours are in the way, their lower ends can be easily removed by cutting a strip of wood to a neat point, dipping it into hydrofluoric acid, and gently rubbing the portions to be removed with the pointed stick. The dial is then dipped in cold water and the surface wiped clean, so that there shall be no pieces of fiber adhering to the dial. Now take a small basin of warm water about 120° to 150° F. (which temperature should not be exceeded); in this immerse the print, and in the course of a minute or two the collodion film bearing the miniature image will float from its paper base; if not, it may be assisted by the use of a small sable brush. Next immerse the dial in the warm water under the floating film, and carefully guide the film with its image to the spot required with the brush. Lift the two very carefully from the water (the film adhering to the dial), and locate the film precisely where it is wanted on the dial. Very carefully, with the tip of the tongue, press the film down in all directions from the centre of the image. Wipe away any superfluous material, such as traces of film, by the careful use of the brush, and stand the picture aside to dry away from dust.

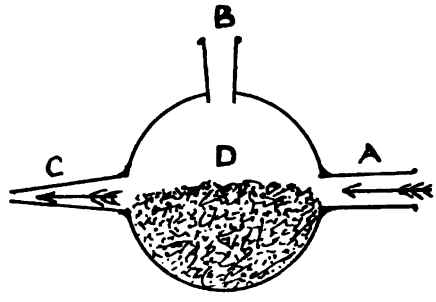
When quite dry coat the whole dial over with a coating of albaline which has been thinned down with one-third of "thinner." The coating solution should consist of one-half albaline and one-half "thinner."* When the dial has been coated with this solution wipe off the lower edge with a piece of absorbent blotter and stand it aside in a warm drying closet perfectly free from dust. When dry not a trace of the varnish can be observed, there should be no trace whatever of discoloration, and the film is now quite waterproof.

If the transfer is to be made upon a gold cap or lid, these should be removed from the watch beforehand and allowed to soak for a quarter of an hour in a tepid solution of potash lye, which may be kept in an earthenware dish for the purpose. Articles of this kind should be handled with great care, a pair of tweezers, the tops of which have been wound over with sewing cotton, being very suitable. This precaution is necessary to prevent the

* These can be obtained from dealers in artists' supplies.—EDITOR.

scratching of the highly polished surface. After immersion in the lye wipe the cap well with a brush made by pressing a tuft of absorbent cotton into the end of a piece of vulcanized or India rubber tube about four inches long. The use of this brush will not injure the most highly polished surface in any degree. If the case or article is perfectly clean the water will rest upon it evenly; if it is not, the water will run in streaks. In the latter event the case must again be cleansed in the lye until the water will lie evenly all over the surface. This cleansing process is very important and not as easy as it reads. By practising on dummy gilded watch-caps, such as may be bought for about twenty-five cents apiece from dealers in watchmaker's materials, the necessary skill can be readily obtained.

This method of transfer is, of course, upon a bright surface, which in many cases is very effective. The majority of watch-case photographs, however, are produced upon matted surfaces. The production of a matt surface on a watch-cap or lid is not a difficult matter, but requires care in the manipulation. It is carried out in the following manner: A pair of bellows will be required, which can be worked by foot-power. The bellows best suited to the work are those used in blowpipe work for the brazing of jewelry. Procure a copper ball from any dealer in plumber's supplies; make a hole in each side of the ball so that the one will be directly opposite the other, and a third hole at the top of the ball; solder a cone-shaped tube in the top, about one inch in diameter. At the sides solder at one hole a brass tube four inches long and five-eighths of an inch in diameter; at the opposite hole solder a brass or copper cone about three inches long, tapering from five-eighths of an inch to a quarter of an inch orifice. Wash this piece of apparatus well in hot water and dry thoroughly. When dry put in half a



pound of fine pumice powder through the top cone; plug this up with a well-fitting cork, attach the end of the straight brass tube to one end of a piece of India rubber tubing about four feet long, the other end being attached to the bellows. Having wiped the watch-cap to be matted, clean it with a piece of soft chamois-leather; take it in the left hand, hold the copper ball charged with pumice powder in the right hand, and work the bellows with the right foot. The pressure of air passing through the copper ball will carry a portion of the pumice powder with it, which, when blown directly upon the watch-cap or lid, has the same action as a sand-blast. In this way, by moving the cap around so as to receive the air-blast and pumice, the whole surface will become beautifully matted. The copper ball should be occasionally shaken by the right hand to shake up the pumice. Anyone exercising a little dexterity will quickly become proficient in this process of matting. When the matted surface has been produced the watch-cap or lid should be cleansed in the lye as already related, well washed, the collodion film stripped from its paper base, and transferred in exactly the same way as already described for the watch-dial picture. When dry the

cap or lid is given a coating of albaline as already detailed. If any spotting is required on the print this should be done before the picture is varnished. With care in manipulation this delicate operation will rarely be necessary.

(To be concluded.)

THE LONDON SALON OF PHOTOGRAPHY. SOME FOREIGN EXHIBITS

SPECIAL acknowledgment is due to the distinguished workers of other lands whose contributions go so far to enrich and diversify the show of the London Salon of Photography, 5A, Pall Mall East. The unmistakable manner in which national temperament governs the output is in itself a remarkable proof of the capacity of photography for "the direct expression of original feeling"—the ideal held up in the foreword of the catalogue. National and individual feeling, however, are separate things, and it is interesting to observe how, apart from personal preferences, the genius of a country expresses itself in its artistic production.

This is very marked in the German work. The legends of the country—grim, mysterious, and poetic—are absorbed in childhood, and leave their influence, expecially on impressionable artistic natures; and there are pervading characteristics of scenery and thought that inevitably take effect and touch the deeper note. The surrounding immensity has been contemplated, and is reflected in the big masses and deep forbidding shadows. The German work does not show the love of Nature so familiar to British sentiment, but rather a recognition of her power.

This may be traced even in the small prints sent by Albert Meyer, who is one of the most interesting of German exhibitors; but these little pictures are really big in conception, and would be still more impressive if seen on a larger scale. "Vor dem Regen" is a notable instance, with its sense of space round the lonely homestead and expanse of sky. This is an excellent work, with concentration, atmosphere, and a good effect of subdued light. Another big idea on a small scale, with characteristic contrast of great masses, is "Brücke im Taubertal."

The contributions by Th. and O. Hofmeister are not on their usual large scale this year, but the pictures shown by these artists, although small in size, are also big and impressive in conception and execution.

R. Paulus's "Frauen-Act Studie" is an undraped figure of quiet tone, graceful line, and nice modelling, except that the shadow indicating the spine is too strong. His "Profil Studie" is on the whole better, and shows decorative feeling as well as a refined sense of tone in the unforced and delicate light that touches the edge of the neck and shoulders. A singularly striking and individual portrait is that of "Hermann Bahr" by R. and M. Dührkoop, an accomplished couple, who also send other interesting work, among which the "group" of two strong heads, the nearest of which is emphasized enough to come well in front of the other, is particularly successful.

Frau Grete Dorrenbach is to be complimented on her expressive portrayal of a nun. The "Portrait," by Nicola Perscheid, is of original arrangement, but accentuation of the bust and

the picture detracts from the importance of the figure. Herr Perscheid has, however, several other strong things in the exhibition.

Works from Austria and Hungary

Austria and Hungary supply a strong contingent of original work, the clever Viennese camera-artist, Madame D'Ora, being one of the most personal of all the exhibitors. Her "Studies in Movement" of the various poses of a dancing figure are quite out of the ordinary, testifying to rare technical skill and also to original invention. The idea of actual motion is not, perhaps, conveyed so well as in the adjacent picture of "Der Tanz," by H. Erfurth, who shows two dancing figures in wild career, and avoids the fixity of position that results from forcible insistence on form. This seems to be Madame D'Ora's weak point, particularly illustrated in "Girl with Dog," where the position is very suggestive of swaying in the chair, while the two arms holding out the dog are moving up and down; but the accentuation of the arms and emphatic treatment of the figure promote the idea of arrested motion. All the same, this is a very pleasing and attractive print, and her prints—especially those in color, to which reference will be made later—are among the strongest things in one of the strongest exhibitions seen in London for many years.

From Budapest come an animated "portrait study" of a black-haired beauty by L. Kalmar, an excellent "study" of girl's head, cleverly modelled, in quiet, reserved tone, by A. Szèkely, and two good works by R. Balogh. His "Sonnenschein" is distinguished by the fascinating shadow of the tree, but the street at the side, with the sunlit figure, though a clever addition, tends to create a dual focus. "Nacht an der Donau" is a sympathetically treated evening effect, though it may be doubted whether a lighted lamp can be properly represented by an isolated dot of light that does not illuminate the surrounding atmosphere—at least against a dark background. "Sunshine" is not quite hit by V. Hoffmann, who has introduced too much darkness in the trees and figures for reflected light and aërial perspective. Josef Pecsi sends a pretty nude, but it is a pity that so much force has been given to the pattern of the hanging cloth as to eclipse the quiet tones and modelling of the figure. Schlosser and Wenisch, of Prague, are represented by a very dainty "Portrait mit Sonne," the effect of sunlight falling on the sitter and on part of the dress, and the details of the head and costume in shadow being well observed and cleverly treated. E. M. Rosenberg in "Der Karrersee" represents a romantic mountainous scene, with forest and water, which would be more effective without the light reflection, disturbing the focus, at the bottom of the picture.

French Exhibits

The French division is the strongest for many years, and is also of much interest on account of the enterprise and vivacity imparted to the work. M. Puyo's "La Chanteuse," illuminated from the footlights, is very Parisian, and extremely spirited and clever. The original effect of light is not the least of its merits. The pose of the head and the pretty line of the arms are also interesting points, but the composition misses something of grace through the straight, hard outline of the skirt, and improvement could be effected by losing this in the atmospheric background. M. Demachy's work is always masterly, and

is generally a centre of eager criticism by the visitors who have followed this worker's progress in the oil and oil-transfer methods. He is exhibiting five pictures this year, the best of which is "Port of Concarneau." In this instance renewed evidence is afforded of his sensitiveness to beauty of line and tone, the fishing smack having almost the quality of a fairy vessel. All M. Demachy's prints, illustrating as they do the expert handling of oft-recurring problems, may be commended to careful study.

Mdlle. C. Laguarde's "Portrait" shows facile treatment in the oil process, and we welcome the name of Ch. Lhermitte, whose "Vieille Rue de Vannes" is strong both in treatment and composition. René Michau, A. Maisson, and Comte de Montgermont also figure in the French group with notable exhibits.

M. Dubreuil sends some examples of the unconventional manner in which he has lately been experimenting. He seems to be searching for fresh ways of seeing and expressing, and I take it that his work is in a transitional state, and may bring more fruitful results hereafter, although the craving after the eccentric is not always to be commended as an example to follow.

Italian and American Prints

The Italian tradition of consummate craftsmanship and decorative excellence, as well as the pervading sunlight of the country, are easily to be recognized in the charming designs of Guido Rey. There is much imagination and forethought in the staging of these fascinating scenes, which generally have a piquant story to tell, and revive the past, the costumes being those of the eighteenth century, with wonderful completeness and animation. "La Servante Indiscrète," with a pretty figure and an effective arrangement of light, is an attractive example.

Of American exhibitors Rudolf Eickemeyer wins appreciation by "Three Ducks in a Pond," these birds being remarkably useful as a point of emphasis in a pretty summer scene, which is not without atmosphere, and might have more if increased delicacy were given to the distant trees and reflections. The portrait of "A London Child," by S. Schell, has nice quality and expression. A. Romano sends some strong effects, touched by imagination, "The Spirit of the Temple" being particularly forcible. "Philadelphia," by F. and C. A. Mayard, is a striking portrait of a prim old lady that compels attention by its sheer straightforwardness.

"The Morning Paper," by J. Mitchell Elliott, and "The Song of the Birds," by Dwight A. Davis, are striking examples of the sunniness and atmosphere that can be suggested by the use of the popular American semi-achromatic lenses. Apart from this quality, however, these two pictures are both fine compositions.

The portraits by Walter Mackenzie and Fenwick Cutten, of Montreal, are splendid examples of strong tone treatment, with well-placed emphasis, while the two beautiful little prints by H. Mortimer-Lamb, also of Montreal, strike a very high note of poetic imagination and treatment.

"Devant une Eglise," by L. Savignac, of San Sabastian, is notable for the effective use of light and a good distant tone. L. Misonne sends some interesting work from Belgium, produced in a rather peculiar method, which, in "Au Lever du Soleil," helps the delicate effect of misty dawn, and in other works renders a good deal of detail with atmospheric softness.

In the foregoing notes I have only been able to touch on a few of the

begins to take place in a minute or two, and the image gradually gains in strength. As soon as sufficient density is acquired, the negative is placed in an acid fixing bath, until the slight pyro stain is removed, and is then well washed, as usual. It is well to rub the surface of the film with a tuft of absorbent cotton at some time during the washing, to remove a slight surface deposit which will be found upon it.

There is one thing upon which I must lay stress, and that is that the negative to be intensified must have been thoroughly fixed in a clean, fresh, hypo bath, and not merely have been left for some indefinite period in a stale or dirty solution of hypo that has been used on other occasions. This is important, but is a point on which I am afraid a good many photographers are apt to be careless.

So far, the process, as described, does not alter the density ratios, merely increasing the vigor of the image proportionally right through. If, however, the original negative is flat from over-exposure, we may get greater contrast by carrying the intensification rather far, and then reducing with the ferricyanide and hypo reducer. Or we may allow the negative to remain in the clearing bath for a considerably longer time, until a decided bleaching action is visible. This bleached image is partially soluble in the silver solution, and so a portion will be dissolved, while the alkaline pyro will reduce the remainder. This treatment is on the whole not really satisfactory; so that I prefer to treat the intensified image, which, by the way, should be a trifle overdone, with the Howard Farmer reducer, as just described.

In a similar way we have it in our power to make a hard negative flatter or softer, by employing ammonium persulphate, this salt (in contradistinction to the ferricyanide) attacking the denser deposit first.

I need not point out the obvious advantage of being able to watch the growth in the density of the image, and to be able to stop it at the desired moment, which we have in this method. Moreover, the result is permanent.

It is not an everyday occurrence that a negative requires strengthening, but when the necessity does occur in the stock solutions at hand, it is only the matter of a very few minutes to remedy it, and the work may be done on the lines I have indicated, with the certainty that the solutions used have not deteriorated, and that the work can be done without any risk of a hitch, or of failure from staining, or from any cause whatever.

To Coat Drawing-paper for sensitizing use arrowroot. Take 90 grains of Bermuda arrowroot and 7 ounces of water. Rub the arrowroot to a cream with a little of the water, then add the rest boiling hot, stirring until the solution is clear. If it does not clear, cook it two or three minutes. When cold add ammonium chloride, 60 grains; sodium carbonate, 100 grains; citric acid, 30 grains; water, 2½ ounces. Heat the mixture and filter. While it is still warm immerse the paper in the solution, drain it and let it get nearly dry, then dip again and dry. The coating makes a foundation for any sort of sentizing solution.

When you are doing a lot of business advertise to get some more. When you are doing no business advertise more to get some.

Everyone in your district doesn't see your show-case.

By H. Essenhigh Corke, F.R.H.S., F.R.P.S., London

One of the notable pictures exhibited at the 57th Annual Exhibition of the Royal Photographic Society of Great Britian, London, 1912

By KATHERINE JAMIESON, Pittsburg, Pa.

President Women's Federation, P. A. of A.

By KATHERINE JAMIESON, Pittsburg, Pa.

President Women's Federation, P. A. of A.

By The Van Loo Studio, Toledo, Ohio

By THE VAN LOO STUDIO, Toledo, Ohio

1. My Daughter
By W. M. CHASE

2. A Young Roman
By W. M. CHASE

3. Self Portrait
By W. M. CHASE

4. Mr. C. Washburn
By W. M. CHASE

Illustrating Sidney Allan's Article

5. The Window
By JOSEPH DE CAMP

6. Pussy Willows
By ALDEN WEIR

7. G. H. Casamajor
By ARTHUR R. FRIEDLANDER

Illustrating Sidney Allan's Article

8. Dr. Wm. Pepper
By R. W. VONNOH

10. Self Portrait
By ZAIDE BEN YUSUF

9 A Flower
By J. W. ALEXANDER

11. Lady and Her Children
By LYDIA F. EMMET

Illustrating Sidney Allan's Article

A FEW AMERICAN PORTRAITS

BY SIDNEY ALLAN

In my series "Masters in Portraiture" the reader will find only two American painters, Gilbert Stuart and J. W. Alexander; a frugal representation, but it is not the fault of the writer.

It was always my intention to include several of our American painters. There are quite a number available, as, for instance, F. P. Vinton, Frank Duveneck, Th. W. Dening, Robert Henri, to mention only a few; but somehow it has been impossible to gather the necessary material for illustration. They never seem to have a sufficient number of photographs on hand, and even if they had it would be difficult to select twelve striking specimens with the same ease as it can be done with foreign artists. Today I will discuss a few portraits by more or less prominent Americans.

W. M. Chase, despite all newcomers, still holds his own. Although over sixty years of age he paints at times as vigorously as in his prime. He may be a bad lecturer, but he can paint. In brushwork, *i. e.*, the actual manipulation of putting paint upon the canvas, he has few equals, if any. Fig. 2 is an excellent example. The lighting of the face and open shirt—one broad, vibrating mass — against the dark background is superbly managed. The shirt is perhaps a trifle too high in key, yet there is no cause for criticism as long as it does not harm the face. The latter stands out prominently and this is largely due to the strongly accentuated drawing of the eyes, the nose, and the mouth, and the uniformity of tint in the shirt.

Chase was never a stickler for likeness. He was too fond of effect for that. He preferred skilful interpretation to character interpretation. The painter, no doubt, would not agree with me on this point, and yet even he could not deny that he is more interested in the color and structure of a face than in any attempt at character reading. Chase paints what he sees before him with almost brutal accuracy. The result is a life-like effect. Nothing is added except the lighting and brushwork. And that is where he falls short. A human personality is, after all, more than a still life. Of course, a painter sees many expressions flit across the face of a sitter, but if he does not try to interpret them he gets little more than a composite, matter-of-fact delineation.

Interesting is his handling of accessories. They frequently become almost indistinct, as the doll in Fig. 1; but he always manages to reduce them to broad masses. The dress, arm, and doll in Fig. 1 all "pull together," and the large plane is animated by the sketchy treatment. The brush strokes tell even if their meaning is difficult to discern. An unusually large dark plane is introduced with success in Fig. 4. The palette makes the picture. which would be quite ordinary without it. The coat in Fig. 3 is handled in the same broad manner. Chase painted this picture on invitation for the gallery of self-portraits of celebrated painters at Florence. It is an honor to be invited, and Chase presumably did his best. It is painted with considerable vigor and a fairly good likeness, as his New York friends know him. As a composition it is ordinary,

and the size of the head seems a trifle small for the canvas. The treatment of the background, light on the shadow side, and *vice versa*, is worth studying. The same problem is solved in Fig. 2. It emphasizes the bright planes of the lighted side of the face and somehow makes the shadows look less opaque.

Fig. 7, by Arthur R. Friedlander, looks rather mild and subdued in comparison with these brush performances. There is a lot of detail well handled, particularly in the coat, which shows a flat treatment with decided accents in the drawing. The names "The Window," "Pussy Willows," and "A Flower," Figs. 5, 6, and 9, indicate that they were not meant for straightforward portraiture, but rather for figure studies. With the exception of the Alexander picture, however, they could easily pass for portraits. Fig. 5 is a fine atmospheric study of a figure in a light dress against the light of the window. The space division and the use of the rectangular in the delicate background, in strange contrast with the curves of the table and jar in the left foreground, are handled with rare mastery. Hardly anything could be suggested to improve the composition. The principal charm of the picture, however, consists in certain air of refinement, an elegance of lines, and purity of tones. The subject is *photographable*, although it may be impossible to give so many deep accents to the table and jar.

The face in Fig. 6 is clear and expressive enough for a portrait. The figure is well placed, but too spotty, at least in the black and white reproductions. The leaves, hands, flowerpot, and embroidery of the dress are too much of the same value. They vibrate but do not form harmonious planes, such as we have admired in Chase's portraits.

Alexander is known for his cleverness of inventing unusual poses. It is also the main characteristic of "A Flower." The figure is fascinating, but the left side of the picture is restless and awkward in shapes. The legs of the table against the light screen are not pleasing to the eye.

There is nothing unusual in the pose of Robert W. Vonnoh's portrait of Dr. Pepper, Fig. 8. It is well handled as far as it goes. The peculiar part of the picture is the background. It is done in the impressionist style, consisting not of planes and flat tone gradations, but of dots or little patches of juxtaposed color. It is like a mosaic of dark and light spots. It gives vibration to the background, but looks a trifle crude and restless. But, no doubt, such a background would help many a stereotype portrait photograph. It would lift it just a little bit above the commonplace.

The "Self Portrait" of Miss Zaide Ben Yusuf, one of the early pictorialists, who has given up the vanities of the photographic world for an unrestrained life in the South Sea Islands, is the only photograph among our illustrations. It compares fairly well with them. It holds its own as a composition. The pose is out of the ordinary, and the values and line feeling is almost as fine as in the De Camp picture. It is deficient, as is generally the case in photographic picture-making, in the details, in the hand resting on the dress, for instance (which is almost lost), and the sharp outline of the figure against the monotonous background to the left. How easily a good painter could eliminate these shortcomings!

Lydia F. Emmet is one of our fashionable lady portraitists. Her forte is society folks, mother and children in pleasing groups. The figures look posed, but make a graceful

silhouette against the background; but we wonder what a carved and upholstered sette has to do in a Gainsborough park? Should this be one of the influences of photography on painting? It would be deplorable, and it is really a shame to spoil a group so charming in lines (although the younger child is somewhat awkward) by such an incongruous environment. The division of space into one large light plane within a dark one, the latter broken only by a patch of middle tint in the upper right corner, the outline of which repeats the main lines of the group, is unusually clever.

PRACTICAL PANCHROMATISM IN THE STUDIO

To the photographer who keeps level with the times, there is probably little to be said concerning the general advantages of the panchromatic plate. For the photography of furniture, the copying of paintings, and for many other purposes, its superiority is obvious—in fact, it is indispensable to success. But the remarkable fact remains that in portraiture we go on in the same old way, photographing everything by blue and violet light, entirely regardless of effect.

The reasons are, perhaps, not far to seek. Apart from the conservativeness which seems to be inherent in the majority of professional photographers, there are two main objections which stand forth. First is the increased exposure consequent on the use of a color screen, and second, perhaps, the increased cost of working. My object is not only to show that the advantages of the panchromatic are sufficient to swamp entirely any such objections, but also to show that the objections themselves have very little real foundation in actual practice.

Less Retouching

Probably the principal advantage in many minds will be the marvelous manner in which retouching is minimized. Every retoucher is only too familiar with those light brown freckles and color-markings, which are only barely visible to the eye, but which sorely try the patience on the negative. Then, again, wrinkles, as we all know, are usually rather redder than the surrounding parts; and these, as well as the innumerable color markings which occupy some three-fourths of the retoucher's time, may be represented truthfully, without exaggeration, and at their visual color value.

I am not for a moment suggesting that it is possible to ***abolish*** retouching by this means—the public has become too accustomed to a perfect complexion and a more or less god-like facial contour to appreciate a photograph which is merely truthful. But my own experience has shown that at any rate some 50 per cent. of the retoucher's work—and time—can be saved by the panchromatic. Surely this alone is sufficient to justify the extra cost.

Furthermore, it gives an opportunity to the photographer who likes to send out a number of rough proofs, but who does not feel justified in retouching the lot. A proof from an un-retouched panchromatic, although it will not flatter the sitter, will certainly not disgust her, as the ordinary unretouched proof has been known to do.

Blonde Sitters

But there is another consideration which, although it may not save any time or labor, is important because it

tends strongly to increase the photographer's reputation with his public. Who does not know the fair-haired sitter who "never *can* get a photograph in which her hair comes out nicely"? The usual method of dodging with fair hair is not only troublesome, but inevitably lightens the shadows overmuch and produces washiness. And then there are the light blue eyes which give the operator so much trouble in lighting, and the sunburnt holiday-maker whose face is so brown as to be almost black to the plate.

Here is the opportunity to score. Such sitters have in many cases come to feel that there is something wrong with their eyes and their hair, which always "take badly." Give such sitters a color-correct photograph, and your reputation goes up at once. The same thing applies to reds, browns, pale blues, etc., in dresses—those shades which cause such disappointment when the proofs are sent home.

While in the studio, however, let me give one word of warning. Shadows in the face are usually warm in tone, and a lighting which may be all that can be desired in the ordinary way may be found rather flat on a panchromatic. All that need be done is to make the lighting *slightly* stronger—a very little will usually be quite sufficient.

I have dealt lightly with the advantages of the color-sensitive plate because a little reflection will readily show the enlarged scope which it yields, especially in the direction of an enhanced reputation. My principal object is to show the real insignificance of the objections which may be raised.

A brief exposure is, especially with nervous sitters, undoubtedly a great advantage. But at this time of the year the majority of photographers have discarded the rapid plates used throughout the winter, finding that a plate of about half the speed is much more convenient. Now a fast panchromatic plate, exposed through a light screen, will require *no more exposure* than an unscreened plate of the usual summer rapidity, and yet give a very marked improvement. With a K_3 screen it is still possible to obtain a fully exposed negative in the studio with an exposure of two seconds at *f*/6, and my experience has led me to the conclusion that the great majority of sitters can be relied on for double that time. Moreover, the K_3 screen, although requiring only about five times the normal exposure, will give *complete* color correction—a point surely well worth remembering.

The Development Bogey!

Some objections may be raised as to the difficulty of handling the plates during development. Undoubtedly such plates are best filled in and developed in darkness, but I have found that plates sensitized in the manner I am about to suggest can be handled quite safely at a distance of three or four feet from a Lumière "Virida" safe-light, using a 16 c.p. carbon lamp. I need scarcely say that the plate should be exposed to the light no more than is necessary. But by using a tank all risk of fog can be obviated, as the plates can readily and conveniently be filled in in darkness by means of the loading block, and development done entirely by time. In any case, whether development is effected by tank or dish, it will be found quite as simple as when dealing with ordinary plates; for my own part, I always put both kinds into the tank together, using the green light for inspection if necessary. And here I may say that I do not for a moment suggest that the ordinary plate should be ousted entirely—it does its work perfectly where there is

little or no color, especially if the head is small enough to require but little retouching. Moreover, in photographing children the shortest exposure will generally be required. But in the ordinary run of work the day's exposures may require to be about equally divided between the two.

The Economy of "Pans"

Next, as to cost. This may be urged as a great objection by those who are compelled to work at low prices, in view of the fact that panchromatics cost from two to three times as much as ordinary plates. But is this much? I think it will be found that the saving on the retoucher's time will cover it easily. Nevertheless, no one, I fancy, wishes to see his plate bill doubled, and I therefore suggest a simple and practical method of bathing, by which the cost of plates is but slightly increased, and at the same time the dark-room routine is not unduly upset.

Home Sensitizing

In the ordinary way, the bathing of plates is a very messy and trying operation where more than a few have to be done at once, as anyone who has attempted it without special arrangements will know. There is the difficulty of avoiding air-bells in the dye-bath, the danger of uneven sensitizing through irregular rocking or subsequent improper washing, and the trouble of drying—to say nothing of the doubtful pleasure of standing about in total darkness for a quarter of an hour or more. I have experienced these and other difficulties, and was led in consequence to experiment in order to find some simpler and safer method.

Drying Arrangements

It is necessary, in the first instance, to provide some sort of drying cupboard. Most photographers, I suppose, possess something of the kind; in any case, it forms a most useful adjunct for a variety of purposes, such as the rapid drying of negatives, prints, carbon tissues, etc. The one which I have used with success was cheaply constructed of matchboard in a spare corner of the dark-room, and heated by the flue from a small enclosed oil-stove. This stove serves the additional purpose of warming the dark-room in winter, and the flue carries all smell to the outside air. A gas jet fitted with an old incandescent burner would perhaps be a more convenient source of heat. As a matter of fact, any disused cupboard can be made to serve, if an inlet for warmed air and a corresponding outlet can be provided. The inside can be papered with black paper plate-wrappings and the door can easily be made light-tight. The interior of the cupboard may be conveniently arranged to take racks in which the plates are held vertically. The thermometer (readable from the outside) is important. I find that plates dried quickly tend to keep better, but at the same time the temperature must be kept well below melting-point. A temperature of 75° to 80° F., will dry the plates readily in an hour if the inlet and outlet be sufficiently large.

How to Bathe Plates

The operation of bathing was the principal difficulty. Using a large dish in the ordinary way, I found it impossible to handle more than seven or eight half-plates at a time, on account of the difficulty of rocking quite evenly in the absence of any light. All

attempts at larger batches showed uneven action; in a few cases I obtained in addition a fine crop of air-bells, which, of course, show themselves on development as insensitive spots.

No doubt much of this might be overcome by using three or four times the amount of dye solution, but such a procedure would be very wasteful, and would bring the cost very near that of the commercial article. And my experience has been that it is inadvisable to use the bath more than twice in any case, as the dye is soon precipitated, and settles on the plate, causing innumerable tiny highly sensitive spots.

Finally, I found that the most successful and convenient method was to use a tank. This obviated all difficulties as to unevenness and air-bells (which I find can always be avoided by lowering the cage slowly and steadily into the tank), and reduced the period of actual darkness to a minimum.

Making the Dye-bath

The dye-bath usually recommended is a 1 to 50,000 solution, and I have found that 500 c.c. at this strength is amply sufficient for two dozen half-plates—probably it would suffice for a much larger quantity. Now a 7 x 5 developing tank requires about 1600 c.c. to cover a dozen plates, and as it is inadvisable to use the same bath repeatedly for the reason already stated, I cast about to discover how far it might be safe to dilute it.

I first used a bath diluted to ten times its bulk, *i. e.*, 1 to 500,000, and immersed for ten times the usual period. The dried plates were then tested by exposing through a K3 screen on a color chart. The result, although showing considerable color-sensitiveness, was far from satisfactory, being similar to that obtained by means of a fully sensitized plate with a K1 filter. Moreover, as might be expected, the multiplying factor of the screen was decidedly increased.

After some little experimenting, I found that a dye-bath made up as follows gave perfectly satisfactory results, the color-rendering with the K3 screen being, for all practical purposes, perfect:

Pinachrome (1 to 1000 alcohol) .	4.75 c.c.
Pinacyanol (1 to 1000 alcohol) .	3.25 c.c.
Water	1600.00 c.c.

The alcoholic solutions keep well, but the dilute bath should be mixed only before use. Plates may be filled into the tank by the green light, and should remain for eighteen minutes. I have not found it necessary to reverse the tank, the sensitizing being quite even if the solution is well mixed beforehand.

On removing the plates (which is best done in complete darkness), they must be thoroughly washed under a running tap for several minutes. This I found rather awkward, having only three taps, thus the operation became somewhat prolonged. I overcame this difficulty very easily, however, by taking a piece of clean lead piping, some five feet long, hammered up at one end, and boring holes with a bradawl about $\frac{3}{4}$ in. apart along one side to form a continuous spray. This I suspended at a height of about twelve inches above a board of the same length placed over the sink. The lead tube was connected to one of the taps by a piece of rubber tubing, and the plates placed face upward on the board. With the water falling in a steady shower it is a perfectly simple matter to place the plates and wash thoroughly without a light, and without loss of time.

After five minutes' washing the plates should be lightly wiped overwith a piece of clean absorbent cotton and placed in racks in the drying cupboard.

The whole operation (excluding the time while the plates are in the tank, when they may, of course, be left to themselves) need not take ten minutes, and the cost for one dozen half plates is well under twenty cents.

One word of caution must be added. The tank must be thoroughly washed if it is to be used afterward for developing. Where possible, it would undoubtedly be better to keep a separate tank for sensitizing.

It may be asked how such plates compare with the ready-prepared article. The only point of difference appears to be in their keeping qualities. I have found that the bathed plates, if well washed, can be relied on for a month after sensitizing—longer than this I have not tried them—while the bought plates are supposed to keep for six months. In the studio, however, a month is ample.

With regard to color-rendering, I can find no difference. And even when using a "Virida" light rather freely, I have never experience more fog than the ordinary proportion of bromide would have prevented. Finally, it is, to my mind at least, something of an advantage to be able to go on using the plate to which one is accustomed, and the advantages and capabilities of which are well known.—GEO. F. GREENFIELD in *British Journal of Photography*.

THE PERFECT DEVELOPER

THE following practical note by Mr. J. A. Sinclair, F.R.P.S., appearing in *The Sinclair Sign-Post*, will be of use to many who are preparing for the development of holiday exposures. Every photographer discovers the "perfect developer" at some period in his career—a developer which will do more than anything else to correct errors in exposure, and bring out all the qualities needed for the ideal print. Each new discovery of the chemist, providing it is properly advertised, has its period of enthusiastic popularity. "Have you tried it?" says the latest convert to his friends. "I can assure you it is wonderful. I never got such negatives before. Really, all the results on my last holidays are marvellous." Then after a time comes reaction. Somehow, on another journey, the plates developed with the perfect developer leave much to be desired, while those taken by a companion on the same trip were excellent. Gradually it is forced upon the enthusiast that the developer was not at fault, and that his "perfect developer" was only perfect when the correct exposure had been given. We all go through this experience, and one so necessary to us if we are to realize that the perfect developer is the one which we understand the best.

In our case the perfect developer for negative-making is "Pyro." We have had our youthful enthusiasms for the "ens" and "ones" and "ols," and return to the oldest of them, "pyro-gallol." Despite the valuable discoveries of the photographic chemist, we imagine "pyro" is as secure in its position as ever it was, and probably larger quantities are used today than ever before, although we quite appreciate the advantages of some of its newer rivals for special purposes. And the causes for the popularity of "pyro"

with the majority of the best workers are its cheapness, its admirable keeping qualities both in crystal and in solution, and its suitability for making concentrated solutions, of which only a few drops are required for developing a plate. Regarding its cheapness, price is a small matter, and does not stand in the way when perfection of result is desired. Fortunately, with pyrogallic acid, cheapness is not secured at the expense of quality, for the crystallized "pyro," which is sold in small bottles, is, in our opinion, not only cheaper but better than the old style in beautiful snow-flake form. The crystals not only economize space, but seem to make clearer solutions, probably because they keep better.

Then the immense advantage of "pyro" so far as concentration of solutions is concerned is at once manifest. From 2 to 4 grains of "pyro" are sufficient to develop a quarter-plate, and 1 ounce (437½ grains) quickly made up into solution will last most amateurs a considerable time. The formula we recommend for all-round work is as follows:

No. 1 Stock Solution, label "Pyro 10 per cent."

Pyrogallic acid	1 ounce
Potass. metabisulphite	1 ounce
Water to	10 ounces

No. 2 Solution, label "Soda 20 per cent."

Soda carbonate	4 ounces
Soda sulphite	4 ounces
Water to	20 ounces

A simple plan is to get 10-ounce and 20-ounce bottles, and use them for the purpose of the developer. The quantities given are not quite correct scientifically, but they are practically, which is the main thing. An extra bottle may be had containing:

Potassium bromide	1 ounce
Water to	10 ounces

but bromide is rarely necessary with good plates.

To develop, we usually take 1½ ounces of water, add from 40 to 80 minims of 10 per cent. "pyro" solution, and make up to 2 ounces with 20 per cent. soda solution. We say from 40 to 80 minims of "pyro" solution, because some plates will not require more than 40, while others will usually want 80 if a strong and brilliant negative is required. Temperature is important, so far as time of development is concerned, and a temperature of about 65° F. is advisable. In very hot weather, or with plates prone to fog, from 10 to 20 minims of bromide, 10 per cent. may be added to the 2 ounces of mixed developer. The time of development must, to a great extent, be left to the worker, and is "according to taste." In such a developer as we have described for bromide printing or enlarging, 3 to 4 minutes would be ample, but denser negatives made for platinotype printing should have about 8 minutes.

To Mount Paper on Metal. Make an adhesive of ½ ounce gum tragacanth, 2 ounces of gum arabic, and 8 ounces of water. Dissolve and strain, using hot water for dissolving the gums. This is also a good adhesive for mounting prints on wood.

To Work with Crayon on Bromide Prints. Use powdered pumice-stone to roughen the surface slightly, sprinkling the powder on the paper and rubbing lightly with the palm of the hand. This gives a good tooth for the crayon, but care must be taken not to make abrasions on the paper by too vigorous rubbing.

Potassium ferricyanide and red prussiate of potash are the same thing. The pure should be clear ruby crystals. Both crystals and solution should be kept in the dark.

THINGS TO STRIVE FOR

We are living in an age of art feeling, and no matter how great the mechanical skill, there must be something beside it to make a lasting impression. There was a time when the photographer and his customers were satisfied with a picture which was simply a map of the human face. That day has gone by, and it is a small town, indeed, a long way from railroad communication, that will be content with this sort of work. Not only is the photo artist educating himself to a higher standard, but the people that come to him are rapidly learning the value of light and shade, of tone and color qualities. They are no longer pleased with a face as white as the color and cuffs they wear, for they realize that there is a difference in nature, and, if this difference exists in nature, then surely it ought to be in evidence in that thing which is a counterpart, or should be, of nature.

We are creating higher ideals; we are studying the work of others; getting out of the ruts of our own rut-work and seeking the things that are known to be the best in the work of others. In other words, we are teaching ourselves to see, and when once we see we will not be content until we produce the ideal in our mind's eye.

Now I know that all subjects are not good subjects. I know that the men or women who so charm us by their manner, their conversation, and by the light and shade of conflicting emotions that pass over their faces while they talk, are presenting to us phases of character which it is almost impossible to catch; but to each one there is that something which is eminently characteristic of themselves that we can catch, that can be portrayed on the sensitive plate and kept for future generations. Mind you, I do not forget the dollars and cents side of the business, which must always be uppermost in order that we may succeed. But among your customers there is always some one who will draw forth your admiration, and in whom you will recognize a subject which, if properly handled, will stamp you and your work as first-class. This is your opportunity, and you should not let it pass.

First of all, I believe that a man should be in love with his work; not in the sense that he will be blinded to the good qualities of the work of others, but really and truly in love with the profession which he has chosen, and filled with an ambition to be the best there is in that profession. It is only that kind of a feeling that will bring out the best that is in the man. Under these circumstances his faculties will always be alert, and the hours spent in the study of anything that aids him in his work will be among the most pleasant enjoyments of his life.

Above all things, study simplicity; try to see how little it takes to make a picture rather than how much. A portrait requires but little besides the person, and that little should never intrude. Most of the backgrounds are too fussy, too much broken up, and often too much in focus. Let your whole interest centre around the face and figure of your sitter, and by all means strive to keep the picture within the plate. The shine of a row of big buttons will often detract from an otherwise delightful picture. If time will permit, talk to or entertain your patrons, at least long enough to see some peculiarity of their manner, some grace of motion which you can make use of. This will give originality

to your work and call forth the highest praise; in fact, it will be like them.

Then, too, I would suggest that every photographer study all pictures that come under his notice, particularly if they be good ones. Not only do I mean photos, but engravings and paintings. Notice how the people are grouped, the accessories, light and shade, and, above all, study nature, never forgetting that you cannot represent nature, but you can approach her in a manner so like her own that people admire and applaud the close resemblance.

Study the papers and other materials you use. Do not become wedded to any one, but always bear in mind that each has its good qualities, and will, under certain conditions, be the best for you to use. Artists work under the same conditions. You will sometimes see them use a coarse-grained canvas, another time smooth; sometimes they paint with the most dainty touch, again with broad sweeps and dashes. It is that they may secure certain effects which can be attained in no other way. Find new ways to trim and mount your pictures. Always remember to keep in harmony and good taste. In fact, when you portray an old man, catch that glimpse of nature that shows what his life has been. Let us see there the struggle and triumph of honorable manhood, a life well spent, a battle well earned; or, if it be one of ease, let that show also. In an old lady let us find all that motherly sacrifice, love of children pride of family, and grandeur of womanhood, crowned with a blaze of glory. If it be a young man, let life's hopes and ambitions peer forth from his honest eyes; let manly beauty stamp the picture as one of nature's noblemen. If it be a young woman, let beauty of soul shine forth, hand-in-hand with virtue and modesty, maidenly dreams and aspirations, together with such charms of face and form as will make the picture a joy ever. If it be childhood, there is no limit to the sunshine and shadow that can enter into your picture. Every period of life has its characteristics, and these should be sought out as expressed in the personality of the sitter, and delineated with discrimination. Bald facts are rarely pleasing. Justice should be tempered with mercy. But there is always something in every face which will please and attract if we can draw it out in our portraiture. Strive in all you do to hold the mirror, as it were, up to nature.

Thus will photography join hands with her sister arts, and if we all do the best that is within us we will call forth the praise of all men.

SUMNER'S SALESMANSHIP. A LESSON FOR THE COMMERCIAL PHOTOGRAPHER

[THE following story by Albert Ward Dippy is taken from *The Inland Printer*. It was written, of course, for the cut-rate printer; but it needs very slight alteration to make it fit most commercial photographic establishments. Few photographers have yet mastered the "cost of production" problem, and too often base their prices on "something lower than the the other fellow."—EDS. W. P. M.]

The senior and junior partners of the firm of Swift & Freer, commercial printers, were in financial difficulties. True, the pressroom was working

overtime and the composing-room seemed busy; but when pay-day came around there was a constant skirmishing for cash to meet the pay-roll and the remarks of the supply men were becoming pointed.

For some time they had realized that an abundance of work did not necessarily mean large profits, especially as they had bid unusually low on some of it to get ready money to meet pressing creditors. Swift, through misguided economy, had weeded out the best compositors and pressmen on the plea that they could not afford to pay more than the scale, thereby greatly reducing the quality of work. As a direct result of this shortsightedness there were vigorous protests from two of the firm's best customers on account of mediocre work, ending with promises of "five per cent. off for poor work," thereby wiping out the very small percentage of profit on the jobs.

Matters were fast reaching a crisis, and one morning the partners were discussing ways and means of saving the business.

"This will help some," said Swift, the senior partner by two years, handing over a mass of manuscript and photographs. "Wallace had a hard time landing this, and we were compelled to underbid Bates & Co. twenty-five dollars; but we will more than save on the presswork what we lose on the composition."

"Yes, that's just the trouble—has been all along—always underbidding and robbing one department of its profits and saying it doesn't pay, and saddling the difference on another department; and then we try to delude ourselves into the idea that we are business men!"

Freer looked over the figures prepared by the salesman, also noted the numerous complicated tables and close-register cuts. There was a frown on his face as he asked, abruptly:

"What did Wallace quote on this?"

"Seven hundred and fifty dollars—one hundred and fifty a thousand."

A low whistle escaped the junior partner as he drew an estimating pad toward him. For a time there was silence as he entered item after item. Then he threw down the pencil so forcibly that the point broke.

"How long are we going to let this half-baked solicitor hand us lemons like this?" he snapped.

"Why—why—"

"There's no 'why' about it. We can't do this job for less than $875 and come out even, let alone make a profit. I, for one, think it's about time we let Wallace out. It has been my impression for a long time that he has been unloading jobs on us that have been hawked all over town for low figures—and we're the ones to get stung! Now he says Bates & Co., with their finely equipped catalogue plant, offered to do this job for $775. It's about time printing salesmen called that bluff. I'm going to see what Bates & Co. actually bid on this job."

Taking down the receiver he soon had Bates & Co. on the line.

"Mr. Bates—this is Freer talking—we have a catalogue here of the Textile Specialty Company. They tell us you bid $775 on the job. Five thousand, you know; text dark gray, with three-color illustrations. Eh, what! You didn't? Well, I'll be blanked!"

"How does that strike you," he growled, as he hung up. "They didn't even bid on the job. Benson pulled the wool over Wallace in fine shape! We stand to lose $125 on the job, just because we have a gullible salesman that falls for every price bluff handed him. It's—

"Good morning, gentlemen!"

The crisp, cheery salutation came

from a young man who had entered unnoticed during the discussion.

The partners looked up, half-foolishly, half-guiltily, each wondering how much of the discussion had been heard by the newcomer, but the frank, magnetic eye of the young man discounted their fears, and the junior partner grudgingly returned the greeting.

"It would be useless to say I did not overhear your remarks about that catalogue, but you may depend on my discretion. Mistakes like that often happen in *our* business."

The partners exchanged glances at the word "our," wondering if this was one of their competitors to whom they had unconsciously laid their weakness bare. But the stranger continued:

"That is just what I dropped in to see you about. By force of circumstances I am compelled to spend the next two years in this city, and I want to connect with a live, modern plant as a salesman. Not an order-taker, but a real salesman. My natural modesty doesn't prevent my saying I have some ideas on printing salesmanship radically different from the average salesman. I believe in giving the customer more than mere printing for his money, and I have found in my home town that it pays."

The young man paused to note the effect of his long introductory speech on the two men. Swift's look was sarcastic, but Freer was very much interested. He was wonderig whether an all-observing Providence had sent this young man to pull the firm out of the financial hole it was in.

The senior partner answered, and his words were indicative of his usual train of thoughts. He was not only a pessimist, but an ultra-conservative as well.

"Oh, we have a man on the street now, and don't need another—the one we have is losing our customers fast enough. There's no use trying new stunts in this town—the business men won't stand for it, and the advertising managers know more about the cost of printing than any salesman we have ever had. Wallace has to cut on every order we get from the big people to get any recognition at all. The town is cut to pieces—"

Swift stopped suddenly, somehow feeling unaccountably uncomfortable. Was the stranger laughing at him, or was that pucker of the strongly knit jaw just an accident at the time he mentioned price-cutting? The look passed in a moment, and the momentary flash in the clear, gray eyes indicated an opening of the very kind desired.

Freer was an intensely interested listener and was thinking hard, but let his partner do the talking.

The stranger's next words caused the senior partner to wince. This was a sore point between the partners. Freer had long advocated an advanced cost system, but Swift had put off its installation, not realizing that it was a saving, not an expense, to get accurate cost figures.

"I don't want to knock any man who has to work for his living, but this catalogue error is inexcusable. What does your present salesman know about printing—not about typesetting and press-work, but about cost? Does he know anything about the items—*your* items—that enter into your costs? Can he actually estimate the time required or does he just guess or take his competitor's figures as a criterion, as he did in this case? By the way, *do you actually know your own costs, based on money invested and actual production?*"

The rapid firing of questions was like the spatting of a Gatling gun, and

every shot went home. Swift's brow clouded and he was about to rebuke the audacity of the speaker, when Freer broke in with a resounding whack of his fist on the desk.

"He's right! Wallace is a mere order-taker. He follows, where he ought to lead, the customer, and he knows no more about our actual costs than—than we do! He's got to go. This catalogue is his swan song. It's to the interest of the business that we get some new blood on the street."

"But—but he is willing to work for low wages. We will have to pay a better man more money," Freer expostulated in a low tone in his partner's ear.

"Yes, we will; but if we keep on taking in Wallace's work we'll have to shut up shop. I am for giving this man a chance to prove his words. He looks good to me."

"So as not to run any risk of disappointment, suppose you give me a try-out?" said the stranger, quietly. "Perhaps on looking over this catalogue I may be able to suggest some ideas that will secure a better price for it—one that will leave a fair margin of profit."

Swift smiled grimly. He could ask no better trial. Well he knew the manager of the Textile Specialty Company. Even Freer's face expressed little hope.

"My card, gentlemen." And the stranger laid a neatly engraved business card before them.

"G. L. Sumner, Advertising and Salesmanship," it read.

Freer noted that word "Advertising" and it seemed to give him more confidence in the man. Surely the man that sold catalogues would be much better equipped if he had a knowledge of advertising, for what were catalogues but advertising literature? His thoughts were interrupted by the stranger's next words:

"If I succeed in getting a profit-paying figure for the catalogue, I add your firm-name in the lower left-hand corner of this card, and my name on your pay-roll at fifty dollars a week?" It was more of a statement than a question.

There was something compelling in the voice and personal magnetism of G. L. Sumner that few could resist. After a moment's consultation, the partners agreed. Sumner was assigned a small private office to work in, and facilities placed at his disposal to secure the materials he required.

Late in the afternoon, after spending four or five hours over the manuscript and photographs, Sumner laid before the manager of the Textile Specialty Company a rough dummy, and some equally rough sketches, showing various groupings of cuts.

John Benson was noted as a hard man for salesmen to handle. "What's this?" he demanded, irritably. "I want an exact reproduction of last year's style, with the new copy and plates. By the way, you are not the man I gave the order to?" he asked, suspiciously.

Sumner essayed no reply, and Benson continued:

"Well, if you people don't want to do the job the way I want it I'll send it over to Bates & Co. They are willing to give me what I want." And he made a pretense of reaching for the telephone, but stopped with an angry frown that turned into a smile of grim amusement at the salesman's slightly drawled words:

"At a mythical figure of $775?"

"I see you've had your eye-teeth cut, young man. Well, what have you to show me?"

This was the opening Sumner was

waiting for—when the customer actually asked for information.

"In looking over your catalogue copy this morning," he said, "I noticed a number of points that apparently got by you, due to your time being occupied by other matters. As an example, the introductory remarks of a catalogue appeal to the customer's eye first on opening the catalogue. They are, therefore, an important advertising feature. The introduction here is short, and while it is to the point, appears harsh and abrupt. It may have a tendency to irritate the reader and influence him against further reading. I have taken the liberty to rewrite it. Would you be interested in seeing my effort?"

Sumner laid down several neatly typed pages.

Benson ungraciously glanced at them. This was a rather forward young man that dared criticize his own copy.

"I was in a great hurry when I dictated that, but I guess it's all right. It brought the business last year."

"Probably it did, but you will notice I have mentioned several new features you have added to your catalogue that you have omitted in the introduction. These items mentioned in the introduction may lead to more sales."

After a careful reading of the pages, Benson's face relaxed. "Say, young man, I couldn't have done better than that myself, no matter how much time I took. If that don't compel a reading of the catalogue, nothing will." And he started to tear up the original copy of the introduction.

"Just a minute, please." The voice was persuasive yet commanding. "Let us look over the balance of the catalogue first, before we destroy any copy. Now, I have arranged the typographical style of the text-pages, giving prominence to certain features that appeared to me to be important selling points, so that they will stand out strong and impressive, yet in perfect harmony with the style of the page."

"A good idea. Say, you've certainly got that fellow Wallace going some," broke in Benson. "Why didn't he suggest these things?"

Sumner wisely made no comment. Instead he continued as if there had been no interruption. "Now, as to these big page cuts. A careful analysis of these leaves me in doubt as to the necessity of so many full-page engravings. Why not use full pages only for the important features and group the balance five to a page? This will cost more per page, but will make at least sixteen less pages of cuts, and concentrate the reader's attention. Here is my idea"—showing the group sketches. "Incidentally, this eliminating sixteen pages will also reduce your mailing two cents per copy or $100 on the job."

By this time Benson was all attention. His keen eyes took in every detail and his analytical mind approved. Here was a printing salesman after his own heart. It was a pleasure to talk to him.

"There are one or two other items," Sumner continued. "While we do not furnish them to you I noted by the odd size of your catalogue that you had to use specially made envelopes. I have trimmed the size down to standard and you will save material on this item, as well as making your catalogue easier for your customers to file. Do you approve?"

"Decidedly so. It's a wonder I didn't see that myself."

"Now, as to the cover," continued Sumner. "You have a particularly fine photograph of a novel design here. Is it something new?"

"Yes, an idea of my own, and bound to attract a great deal of attention, as it has strong selling features. Anything you can do to emphasize it will be appreciated."

Sumner's gray eyes flashed. Here was his trump card—and Benson was *personally* interested. Nothing could have been better.

"My idea is to make a half-tone in colors of this design to cover both the back and front covers. To have a mortise on the lower half of the front to contain a cut of your building, and woven into the design at the top the title of the catalogue in cleanly cut, readable lines of lettering."

Benson sprang to his feet. "Fine! young man. Great! Say, I think we had better increase that order to ten thousand while we're about it."

"At $200 a thousand," softly.

"What!"

"At $200 a thousand," repeated Sumner, looking his companion full in the eye.

"But that is $50 per thousand more than the figures Swift & Freer quoted, and you have cut out sixteen pages and reduced the engravings."

"True. The difference is for the increased selling value—and brains."

"Well, you've got me. It's a bargain—but you must deliver the goods up to the standard you've laid down."

THE RECONSTRUCTION OF NEGATIVES AND PRINTS

The Reconstruction of a Print

THERE are two chemical methods of altering the scale of gradation in a print in the initial stage of reconstructing the negative, *i. e.*, by manipulating the exposure and by altering the composition of the developer; and as any variation from the normal process in either method has a direct and palpable effect, I beg my inexperienced readers to consider the following remarks and advice upon the subject very carefully.

If the same end can be attained by altering the composition of the developer, adopt that method in preference to varying the exposure. If you vary the exposure you at once do away with an important constant, and any faults due to such procedure cannot be effectually rectified by development.

Before you have gained some experience in the work, do not attempt to make a compound variation in exposure and development.

Never employ "time development" if you have altered one of your constants; the negative must be developed slowly and examined from time to time. Remember that the initial effect due to any alteration in the composition of the developer will be the greatest. Now, different developers have very different effects in this part of the work, and it is an absolute necessity to know the peculiarities of the one in use. As to the best one to use, I am not prepared to say, opinions are bound to differ on the question, with more or less reason; but I will maintain that where the four essential features of cleanliness in working, colorlessness of deposit, constancy for similar formula, and simplicity in modification are required, you cannot do better than employ either of those given.

I give here a formula for a single solution, of metol-hydroquinone, the modifications of which are very similar to rodinal in their effect, except that

the developer is more energetic in its action. The beginner must on no account get confused or worried at the thought of modifying or altering the composition of his developer. I have repeatedly found a prevalence of this peculiarity in young workers, and regret that many writers have given very great cause for its existence by splitting hairs over the effect of slight variations in the percentage of the caustic alkalies and carbonates and other ingredients contained in the composition of some developers. In the two formulæ given no difficulty will be experienced in this direction, as one of the great advantages in their employment lies in the fact that the modifications consist only of the addition or exclusion of bromide of potassium and dilution with water.

METOL HYDROQUINONE

Metol	200 grains
Hydroquinone	120 grains
Sodium sulphite	6 ounces
Potassium carbonate	3 ounces
Water (distilled or filtered boiled	80 ounces

Ten per cent. bromide to be added when necessary at time of development.

The keeping quality of the above is practically indefinite, so may be made up in the quantity given.

Bromide of potassium has been purposely omitted from the formula, as its effect can be more easily controlled when added, in known quantity of a 10 per cent. solution, from a dropping bottle.

The general effects to be obtained by the various methods of altering the original scale of gradation in the copy are as follows:

CASE I.—*Copy too flat or soft, too full of detail and lack of mass.*

Curtailing exposure with normal development will harden the result generally by loss of detail and lighting in the shadows. By the initial addition of bromide to developer the high lights are still further kept back, providing development is stopped before it has reached the extreme limit, thereby increasing contrast still more. By diluting developer and omitting bromide the contrast in the original may be nearly preserved, detail only being lost.

Exposure normal or correct. By the initial addition of bromide to normal developer the contrast is increased universally, providing development is stopped before it has reached its extreme limit.

By diluting normal developer, and adding bromide, a thinner negative is obtained, but with almost precisely the same ratio of contrast as above. Such a negative is suitable for enlarging purposes.

Note. In order that my readers may clearly understand what is meant by the limit of development, it must be remembered that development is complete when no further reduction of the light-affected bromide of silver in the emulsion can be effected by ordinary development; beyond this point, any further apparent reduction is simply chemical fog or decomposition, due to prolonged immersion in a comparatively strong solution of developer. It should also be remembered that if a developing solution of however large a volume be sufficiently weak in the percentage of the reducing or developing agent, immersion of the negative for twenty-four hours or more will in all probability completely develop it without any tendency to decomposition. Such a solution is generally known as a "stand developer." This proceeding, however, is not permissible with all developers.

CASE II.—*Copy is too hard or full of contrast.*

By increasing exposure and using normal developer the steepness of the

scale of gradation is lowered, and the whole softened by reducing the contrast between the high lights and shadows.

Exposure Normal. By diluting normal developer a thinner negative is obtained with practically the same contrast, providing development be stopped before the limit. By using a normal developer and omitting bromide a softer result is obtained.

By diluting normal developer and omitting bromide a much softer and thinner negative is obtained.

There is another method, which, I believe, is not generally known, by which contrast in the copy may be reduced, and which lends itself to a considerable possibility of local treatment: If a piece of card, with a dead-white surface, be frequently passed in front of the copy during exposure, a general softening is the result; but it must be remembered that the card must not be passed backward and forward, or the middle of the copy will receive less exposure than the rest, unless the card clears it each time. Do not attempt to obtain a reverse rendering by using a black card; it has not the desired effect.

The worker must always bear in mind the printing process he is going to employ, and develop to produce the degree of density most suitable to that process. Should he afterward decide to print by a different process, the negative may often be accommodated to it by the interposition of pale yellow glass for increasing contrast and pale blue glass for reducing contrast.

The Reconstruction of a Negative.

The possibility of reconstructing a negative is in itself worth all the time spent on mastering the process. A method of reconstructing a negative in which there has been a movement of the subject—a sitter in a portrait, for instance—may be often employed with advantage and success; it is as follows:

The negative is bleached in mercury, and, as in nine cases out of ten, one position has received much more exposure than the other, this will consequently give the stronger positive image. The film is now backed with black velvet, or similar medium, and the positive image copied through the glass; by this means we obtain another negative the correct way round; that is to say, that when printed from in the ordinary way the prints will show the subject in the same position as if printed from the original negative. Professional photographers should remember this if they do not already know it.

FLASHLIGHT PHOTOGRAPHY. A PROFITABLE FIELD FOR THE PROFESSIONAL

THIS is just the season for balls, carnivals, banquets, whist drives, and evening parties, and many professionals are turning the winter months into a very profitable period by taking flashlight photographs of local gatherings of this kind. Other professionals seem to fight shy of this branch of photography, either underestimating its advantages or overestimating its difficulties. A few words on each aspect may help to set the matter in its proper light.

As a matter of fact, flashlight pho-

tography is particularly valuable to the professional, not only for the profits on the actual orders, but also on account of the connections to which it often leads; and, as for the work itself, it is quite as easy as portraiture in the studio.

The advantage of introducing yourself and your work to a large number of possible clients is obvious. Suppose, for instance, that there is a big ball, or a large Masonic dinner in your town. Under ordinary circumstances it would take you a long time and cost you a great deal of money to persuade these people to visit your studio; yet, if you take a flashlight photograph on the night of the event, you at once interest them all; you have an opportunity of making a favorable impression upon them, personally and professionally. In order to make the most of this the operator should be a most presentable man and should wear evening dress. Arrangements must be made for exhibiting a proof as soon as possible after the exposure—certainly well before the gathering breaks up. For this reason it will be necessary to rig up a temporary or portable dark-room, unless the studio is close at hand. Having obtained a good print, which can be mounted wet, the photographer will generally be able to obtain, on the spot, a large number of orders at profitable rates. For a print 10 x 12 he should get from one to three dollars —the price depending upon the class of people present as well as upon the quality of the work. Naturally, if the gathering is a special one, not likely to be repeated, or if some particularly well-known people are present, there are likely to be more orders and higher prices than if it is an ordinary or regularly recurring function, such as a monthly dinner of a club or lodge.

The value of this work need not end when the orders received on the spot have been executed. The object is to get into the studio a large number of the people who figure in the flashlight photograph. If a good negative is secured, it may be worth while taking some trouble to make a really fine bromide enlargement to exhibit in the studio and then to invite the public to come in to see it. To a few specially-selected guests this invitation may be sent through the post; in other cases it will be sufficient to place a neatly lettered card in the showcase or window. The receptionist can be left to make the most of her opportunity when people call to see the enlargement.

So much for the advantages of this branch of photography. As for the difficulties, they are largely imaginary. An ordinary outdoor outfit will meet the case, and all that is needed beyond that is a supply of powder and the means of firing it.

There is no danger in the work if care is taken, but the operator should always be a reliable man. A man who is rash enough to fire a compound powder in an ordinary flashlamp is certain to get into trouble. The first essential in a flashlight powder is that it should fire quickly. Agfa powder will meet all requirements. Do not attempt to make your own powder. The process is a risky one and the result is seldom satisfactory.

As for a means of firing the powder, there are several efficient flash lamps that will serve the purpose in small rooms.

In the case of large halls, it is necessary to use a larger quantity of powder than can be accommodated by these small lamps. An excellent and effective lamp may be made by taking a sheet of zinc 3 feet long and 1 foot wide, and bending it to the shape of the letter M. In the 3-foot groove

thus formed lay a train of gun-cotton, and to the centre of it attach another piece 6 or 8 inches long, and let it hang over the edge of the groove midway between its two ends. Upon the gun-cotton in the groove spread the flashlight powder. It is impossible to state the amount of powder required for a given subject—so much depends upon the height of the room, the color of the walls and hangings, and the atmospheric conditions. As a rough guide, however, 50 grams of Agfa powder will be sufficient for a hall 150 feet long and 75 feet wide, if you use F.16 aperture and a very fast plate with a genuine H. & D. speed of 400. The powder should not be spread until you are quite ready to make the flash; otherwise it will absorb moisture from the air and fire with a loud report.

The best position for the light is usually behind the camera, and at least 8 or 10 feet above the heads of the subjects. Sometimes it is desirable to point the camera diagonally across the room, and have the light at one side: in this case it is clearly necessary to screen the light carefully from the lens. The ceiling, unless very high, must always be protected from the flash. A large white card or other reflector behind the flash will help you to direct the light. Every care must be taken to provide for the escape of smoke—but ordinary smoke-traps are not recommended except for limited charges of powder in quite small rooms. When everything is ready, the overhanging gun-cotton should be fired with a long taper.

There is practically no difficulty about this procedure, and it is suitable for the ordinary hall in which the professional will be called upon to work. In the case of larger halls, where a more powerful luminant must be found, the flash powder must be burned in oxygen instead of air. There are a number of methods of doing this—but it would be well not to attempt large halls requiring special systems of lighting until the operator has had a good deal of experience with ordinary flashlight work in smaller halls.—*Australasian Photo-Review.*

CIRKUT PHOTOGRAPHY

CIRKUT photography is successful photography. The professional photographer finds in the Cirkut a new and dignified means of greatly increasing his business without any of the disagreeable features that are sometimes associated with view work. There is no equipment that offers as many opportunities for original and unusual effects in outdoor composition.

Cirkut pictures are fast displacing the conventional 5 x 7, 6½ x 8½, and 8 x 10 "views" of groups, factory, or landscape, and the owner of a Cirkut soon finds that his customers are willing to buy more, and—what is more important—pay more for pictures that are a departure from the old style view, the dimensions of which were suitable to very few of the subjects pictured. With the Cirkut the operator can make his negative as long or as short as may be required to secure the best possible effect.

In every locality there are many opportunities for highly profitable Cirkut photography—real estate development projects, real views of manufacturing plants that include everything required, without having to take

the picture at such a distance that many important details are too small to be of value, and—most important of all—groups in which each person appears large enough to make everyone included a prospective buyer. Large groups can be photographed without crowding the subjects together on precarious stands—unsatisfactory not only because of the difficulty in preparing the stand, but also on account of the fact that many in the group are behind those in the front rows. With a Cirkut everyone in the group can be photographed equally well.

The photographer who owns a Cirkut has an unlimited field in which to exercise his originality in creating new business—the summer or winter hotels want panoramic pictures to hang in other hotels; the railroads are always in the market for new and original pictures of some interesting feature on their line, and other similar work gives the photographer an exceptional opportunity to deal with big business people in a dignified and profitable way. The Cirkut means success.

The above is the introduction to a new catalogue just issued by the CENTURY CAMERA DIVISION of the EASTMAN KODAK CO., and incidentally we might add that it is an unusually well-gotten-up and well-printed piece of work. We reprint these introductory remarks because we think they are worth a careful reading.

So few photographers realize the full possibilities of photography. We refer now to the general photographer, the man who is asked to photograph anything from a baby to a railroad bridge. Only recently, a prominent commercial photographer remarked to us that he hated to come away from a small town with a big and profitable order that would have gone to the local photographer had he been equipped for the work.

Not only does a photographer with limited equipment lose good orders that would come to him direct, but he is letting rich possibilities lie idle while he sits around waiting for business to pick up. The man who photographs children only or men only, and can get enough of them, has little need for special equipment; but to the photographer who claims to be prepared to take anything, every piece of apparatus that will help him to more and better work should receive serious consideration. Hence our advice to secure from your dealer or direct from the Century Camera Division a copy of "The Cirkut Method."

How to Clean a Lens. First spread upon a table a clean sheet of paper; take your lens carefully apart; now dust with camel-hair brush each lens on both sides; then take a clean graduate, pour in 2 ounces of distilled water, 1 ounce of alcohol, and 3 drops of nitric acid (C. P.), mix well, and with a tuft of filtering cotton dipped in this solution, rub the lens on both sides; polish with a clean chamois which is kept for this purpose only, which, when not in use, should be put away in a clean paper bag. After the lenses are all polished, before putting together, wipe out carefully the brass tube; then dust each lens with a camel-hair brush (never blow on them) and put together. A lens cleaned in this way will keep clean much longer than in would if simply wiped with a chamois.

Give your customers a courteous invitation, an attractive show-case, a homely studio, and good value, and they will come again.

New ideas make big successes. The man who can anticipate new wants or create some new demand wins fortune.

The Van Loo Studio
MADISON AVE. & FOURTEENTH ST
HOME PHONE 1411

"EVERYTHING IN PHOTOGRAPHY"

TOLEDO, OHIO, Sept. 4th.- 1912

Wilsons Photographic Magazine.
New York.

Dear Sirs

Just as a reminder that we are still in the business we mail under seperate cover some prints, and to incidently say that we still find that after thirty three (33) years a subscriber that Wilsons is just as interesting as ever.

Very Sincerely,

W. H. Van Loo

NEW BOOKS

Photography of Today. A Popular Account of the Origin, Progress, and Latest Discoveries in the Photographer's Art, Told in Non-technical Language. By H. CHAPMAN JONES, F.I.C., F.C.S., F.R.P.S. 336 pages and index; 54 illustrations. Price, $1.50, *net.* Philadelphia: J. B. Lippincott Company, publishers.

Mr. Jones is an authority on photography, and as might have been expected, has made a valuable addition to the literature of the subject in *Photography of Today.* In as simple language as a technical subject will permit, he takes up photography, beginning, very properly, with what makes photography possible—light, its nature and effects, describing every photographic process from the time of Niépce and Daguerre to the making of photographs from aëroplanes. The entire book is a consideration of cause and effect as distinguished from the mechanics of photography. In the whole fourteen pages devoted to "Development of the Plate," there is not a single formula. There are chapters on Photomechanical Printing, Photography of Color, and one on the Sundry Applications of Photography. It is a book that we would strongly recommend to those of our readers who are prepared to admit that there are some things in photography that they would like to know more about.

Nature Photography; What to Photograph; Where to Search for Objects; How to Photograph Them. By STANLEY C. JOHNSON. Illustrated; pp. 100; notes and naturalist's calendar. Price, fifty cents. London: Havell, Watson & Viney, Ltd.

Mr. Johnson in his preface points out that nature photography is no longer the scientific hobby of a select few, but the pastime of thousands of ardent workers, and his book is an attempt to supply a cheap manual dealing with the subject in a broad sense. Much helpful information on photographing birds, beasts, and fishes in their natural haunts is given. Flowers and insects are also taken up, and the camera-worker who is anxious to turn his attention to animated nature will learn much from this book that will help him.

TRADE NOTES

"WHERE under the sun can I secure the best plate for my work?" Don't experiment, just look over the IMPERIAL plate list. Imperial plates are made in eleven different grades, a wide variety to select from, no matter what your work. For the professional or amateur, the Imperial Special Sensitive covers the field most amply; a rapid plate with a fine grain and plenty of latitude for variations in exposures. For reflex work (by the way, have you seen the Ensign Reflex? No! Just drop a postal to G. GENNERT for information) the Imperial flashlight plate, ultra-rapid, yet free from objectional coarseness. Space here does not permit of a full description of all the grades of Imperial plates, but a postal will bring full information. At your dealer or G. GENNERT, 24–26 E. Thirteenth Street. New York; or G. GENNERT, 320 South Wabash Avenue, Chicago.

PLATORA IN CANADA. It will be of interest to our Canadian readers to know that Platora portrait paper may be secured in their own country without the expense and trouble resulting from customs. A complete stock of Platora is carried by A. M. Lyon, 87 Isabelle Street, Toronto, Ontario, to whom pho-

tograhers in Canada can write for samples and prices. The manufacturers of Platora, which is rapidly winning favor among the professionals throughout the entire country, have been extending their operations considerably in the last few months, and have developed quite an extensive trade in South American countries through their foreign representative, Mr. Bensabat. Any professional photographer wishing to try out this high-grade portrait paper, or INSTANTO, a less expensive product for commercial, amateur, view, or portrait work, can secure free samples and literature by writing THE PHOTO PRODUCTS COMPANY (Dept. C.), 6100 La Salle Street, Chicago. This will place you under no obligation other than that of giving the samples an impartial trial and reporting as to the results secured. Quite a number of our readers have taken advantage of this liberal offer and are glad that they have done so. It is certainly worth investigating.

CLEANLINESS is a virtue—and a business asset. Those photographers who carry around with them an outward and visible sign of their profession, in the shape of badly stained fingers and blackened finger-nails, have no excuse for doing so. Workmanlike handling of chemicals will keep them where they belong, but, failing this, an application of STIEFEL'S PUMICE-STONE SOAP will easily and quickly remove any stains that appear on the hands. It is the best soap you can have in your workroom. SCHERING & GLATZ, New York, are the makers, and guarantee its quality and effectiveness. Your dealer can supply you.

The British Journal Photographic Almanac, 1913, the world's standard, has reached its fifty-second year, and like good wine, improves with age. It is widely known in every corner of the world where the English language is spoken, and is quite a favorite in the United States and Canada. The 1913 *Almanac* will contain many new and valuable features, including "Fitting up the Dark Room," "How to Do It," "Formulæ for Daily Work," "Tele-photo Work." As the American supply is limited, and is usually sold out quickly, we would advise that you place your order now, either with your dealer or direct to this office. The price in paper covers is 50 cents; cloth binding, 75 cents; postage, 27 and 37 cents respectively.

THE twenty-seventh edition of the *American Annual of Photography* is well advanced and will be on sale about November 25. It is full of helpful hints and suggestions, and will have more than one hundred selected illustrations by well-known American and European photographers. There will be thirty-two colored plates, and altogether an unusually good *Annual* is promised. Make sure of your copy now by placing an order with your dealers or direct to this office. Price, paper cover, 75 cents; cloth binding, $1.25; postage, 15 and 20 cents, respectively. GEO. MURPHY, Inc., 57 East Ninth Street, New York, are the general trade agents for both annuals.

THE "Agfa" people wish us to inform our readers that they have a good many requests for the *Agfa Formulæ Book* and the *Agfa Flashlight Book*, which they are unable to fill, inasmuch as some of the requests are without name and others are without the address. If you feel that you are not receiving these books promptly enough, it may be that your request is among this lot. The BERLIN ANILINE WORKS, 213 Water Street, New York, like their products bearing the "Agfa" brand, are desirous of giving the best service possible.

THERE is always a time when the photographer who has an outfit with an ordinary lens outgrows his apparatus. There is a feeling that the pictures secured are not what they should be. At a very little cost, a set of Sylvar Cells can be had, in all probability, to fit your present shutter. The Sylvar Cells are fast, rapid anastigmats, speed F. 6.8, and are very inexpensive, although the quality is of the best. An excellent combination is the Sylvar lens and the Imperial plates. Write to G. GENNERT for information concerning these two.

ONE of the interesting novelties shown at the National Convention was the BAUSCH & LOMB OPTICAL Co's new Model B Balopticon. This instrument is a decided innovation in that it provides for the first time a really high-grade projection lantern, worked out on scientific principles, but sold at a very moderate price. It is the ideal instrument for home use, being portable, highly efficient, and absolutely safe, using electricity from any house lamp-socket, and can be operated by any child without fear of danger. Beautifully made and finished, complete in a compact carrying-case, it costs only $18 with Tungsten incandescent lamp, or $22 with a special arc lamp. The BAUSCH & LOMB OPTICAL Co. have an interesting little booklet giving full particulars which they will be glad to send to anyone interested.

The Photo-Miniature, for August, No. 121, "Making Pictures of Children," will be found useful to every photographer. Pictures of children are more in demand than any other subject and any little hint on their making is always welcome. Mr. Claudy, who wrote this number of *The Photo-Miniature*, has had unusual experience along this line, and he has the facility of telling what he knows in a simple and direct manner. It is a book that every photographer will enjoy and which most can profit by. Can be obtained at any dealers for 25 cents.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

MRS. EDWARD L. WILSON, Publisher and Proprietor
MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK
Entered at New York Post-office as Second-class Matter

Yearly subscription in advance, United States and Mexico, $3.00; Canada, $3.25; Foreign Countries, $3.50. Single copies, 25 cents. Subscriptions begin with current issue unless otherwise ordered. Original manuscripts on photographic subjects are solicited, and, if accepted, will be paid for on publication.

EDITORS' TABLE

WE are inclined to be modest, and are not given to blowing our own trumpet, but we could not refrain from pardonable pride in reprinting elsewhere in this issue Mr. W. F. VAN LOO'S testimonial. It is something of a record for the magazine to have reached its forty-eighth year, but it is even more satisfactory to have pleased subscribers of thirty-three years' standing. We appreciate very highly Mr. VAN LOO'S loyal and continuous support.

WE regret to record the death of Mr. ALBERT D. GATCHEL, senior member of the firm of W. D. GATCHEL & SONS, of Louisville, Ky., which took place on September 11, after a short illness brought on by overwork. Mr. Gatchel has been identified with the photographic supply business in the South for many years. He was highly respected and much liked by all who came in contact with him.

IT will not be long before photographs will be transmitted by wireless. It is shown that an electric current has the power to decompose certain colorless substances and produce discoloration. This principle forms the basis of the method by which the telectograph image is received. A cylinder machine equipped with a pen, and made to rotate in sympathy with that of the transmitter, has wrapped around the cylinder a specially prepared piece of paper. As the minute currents dispatched by the pen of the sending instrument reach the pen of the receiver they decompose the colorless substance in the paper and produce a black image at the other end. An elaboration involving other principles well known to telegraphy insures that the image is received in the positive as distinct from the negative form. The advent of this new system, which is being keenly waited by telegraphic experts, tends to confirm the suggestion that the commercial application is quite in its infancy, and that astounding developments may be expected within the next decade.

A BUILDING of great importance to American photography is being built almost directly in the rear of the office building of the Kodak Co. at Rochester, N. Y. This will be known as the photographic research laboratory, and will be occupied by a staff of scientists under Dr. C. E. KENNETH MEES, of England, who will continue his research work in the production of artificial daylight there.

Dr. Mees is an authority on color separation, and has written several books pertaining to the subject. One object of the research work is to reduce some of the recent discoveries he has made to a commercial manufacturing basis.

In the building being erected for him, will be physical laboratories, electrochemical laboratories, and photo-metric laboratories. There will also be a scientific research library. In this library will be many standard works and also copies of all current scientific publications. A corps of librarians will be employed to take from each publication anything which might be of interest to those at work in the plant and give it to the head of the department which the article might benefit.

BUILDING operations now going on at the Kodak Park works of the EASTMAN KODAK COMPANY, which will be completed within a few months, will increase by nearly one-third the total floor space at the works, and will nearly double the present amount of floor space used in the manufacture of films.

There are six new buildings in the course of construction. Each is of reinforced concrete, with brick walls, corresponding with the present buildings at the park. The buildings are entirely fireproof, with metal window sashes and wired glass.

Of the greatest importance among the new buildings is one which will be used for the making of soluble cotton, silver nitrate, and other chemical products used in the manufacture of films. This building will be six stories in height. At the ground it will be 150 by 200 feet, and will contain 82,500 square feet, or nearly two acres of floor space.

A building three stories high, with a basement, is being built for the manufacture of film supports. This building will be 57 feet in height, 435 feet by 90 feet at the ground, and will contain 91,000 square feet, or nearly 2½ acres of floor space. This building is of structural steel, fire-proofed by reinforced concrete.

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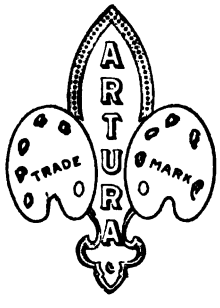

ARTURA DIVISION,

EASTMAN KODAK COMPANY,

ROCHESTER. N. Y.

Vol. XLIX ✣ ✣ ✣ ✣ No. 671

NOVEMBER, 1912

WILSON'S PHOTOGRAPHIC MAGAZINE

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OUR PICTURES:

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Home Portraiture

EVERYBODY is making or trying to make home portraits, because they generally tell a complete story. The difficulty has always been in lighting the subject properly. Home portraits generally show sharp lines and shadows which are not pleasing and destroy likeness.

Mr. E. L. Owens claims the difficulty is solved with

CYKO PAPER

and quotes Sidney Allen, the photographic art critic of the Photographers' Association of America, as having said:

> "You do not get sharp lines with CYKO.
>
> "The light and shadows blend so harmoniously through such soft, progressive gradation of tones that there is no strong dividing line," and "shadows never look opaque, but always retain some atmospheric quality."

The photo-twin books, "The Negative and Positive of Photography," are yours for the asking.

ANSCO COMPANY, Binghamton, N. Y.

By S. H. LIFSHEY, Brooklyn, N. Y.

WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

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THE OBJECT OF A NATIONAL ASSOCIATION

THE recent publication of the *Association Record*, the sumptuously gotten up report of the proceedings of the thirty-second annual convention of the Photographers' Association of America, raises the question, "What does the National Association set out to accomplish; and, by the *Record*, what has it accomplished?"

Such an elaborate and dignified piece of bookmaking naturally invites a somewhat close inspection of the contents. A careful reading will disclose that a considerable portion of the time allotted to business meetings is wasted in futile discussion of trivial matters.

Without going into too much detail, it might be argued that a national convention should devote its time for legislative discussion to affairs of national importance; its time for educational matters to broad and general help and instruction, and its time for entertainment and social purposes to getting and holding its members together for fraternal intercourse.

We appreciate that, to induce any number of people to come together at a given time and place, many inducements have to be offered. In seeking a list of attractive offerings an executive is sometimes driven to offer quantity and quality to its own undoing.

One of the objects of the Association is to build up a fraternal or brotherly feeling among photographers. This is much more easily accomplished when its members rub elbows more often than at the stated meetings, as they can in a medium-sized city. A convention dropped into cities of the size of New York, Philadelphia, or Chicago is as effectively lost as a needle in a haystack. We would urge that the convention be confined to small or medium-sized cities. This same argument applies to a day's entertainment. A resort like Atlantic City or Coney Island can so completely separate a crowd that they only see each other at the railroad station, and the day is lost from a fraternal standpoint. Ontario Beach, Rochester, Cedar Point, Ohio, and Celeron are the sort of places to make and cement good fellowship.

Is it not possible to build up and broaden the Congress of Photography and make it the legislative body of the Association? There are many big, national questions that ought to be taken up and handled by a competent body if any results are to be obtained.

We think that a national convention could spend its time more profitably in taking up questions of copyright,

insurance, ownership of negatives, discriminatory legislation, national advertising, etc., than in trying to give expert instruction in gum printing or lighting and posing.

We agree with the suggestion put out that the picture display should be one of the main attractions of the conventions. We also think that photographers should have enough pride in their work to see that the very best they can produce is shown under the auspices of the Association. The best pictures at Philadelphia were to be found outside of the regular display of the Association.

Professional photography is emerging into a bigger and broader field, and as President Giffin, of the West Virginia Association, remarks in a contemporary: "We are not building well, and unless something radical is done we cannot hope to see any marked improvement or any great good come out of our deliberations." The time is ripe for big men and big ideas.

HOW PRIZES WERE WON FIFTY-NINE YEARS AGO

In the year 1853, Mr. E. Anthony, one of the founders of the house of E. and H. T. Anthony, now known as Ansco Company, offered a silver pitcher and silver goblets as prizes for the best set of four daguerreotypes. The judges were Samuel B. F. Morse, inventor of. the telegraph; John W. Draper, who first photographed the human face, and Jas. Renwick. One of the conditions imposed was that each competitor had to submit a written description of the working method by which the results were made.

The first prize was awarded to Mr. J. Gurney, then in business at 347 Broadway, New York. Mr. Gurney's winning pictures were made as follows:

"After many years of constant practice and innumerable experiments I. have found the following methods the best," remarks Mr. Gurney.

"For cleaning the plate, I use Davies' refined rotten stone, mixed with equal parts of alcohol and water, I apply this with prepared cotton, that is, raw cotton free from specks and dirt—when the plate is perfectly clean it is buffed upon a wheel covered with cotton-flannel, roughed with ball-rouge. This cotton-flannel I believe to be peculiar to my establishment, never having heard of its having been used by any one else, except those to whom I have recommended it, and I am sure that those who have tried it will bear me out in saying that it has no equal as a polishing agent. My plates are then galvanized, and buffed ready for use upon a wheel covered with silk plush, upon which I use calcined lampblack. The plates used in making these pictures and which I generally use are the H. B. brand and star brand, sold by E. Anthony.

"*Chemical manipulations*. In my iodine box I have a stand made of copper wire, this stands inside the pot. and reaches half way to the top. On this stand I spread a piece of cotton-flannel. I spread as evenly as possible from one to two ounces of dry iodine. over which I spread another piece of flannel, this insures a very even coating.

On a dish in the bottom of the pot I place about half a pound of dry chloride of calcium which collects and holds all the dampness descending from the iodine. I take the calcium out every week or two and free it from its damp-

ness by laying it on a plate of sheet iron on a gilding stand, and applying heat until the moisture is all driven off, I then replace it. For my sensitive coating I use bromide of lime, which I prepare myself from German bromine. I find it difficult to give any precise rules for coating. This, as every operator knows, must oftentimes be changed to suit the complexion, the dress, and the light. My usual mode of coating, however, is to a deep red on the iodine, then on the bromide of lime until it assumes a greenish color, with a slight tinge of red in the centre; then back over the iodine from one-third to one-half of the first coating. This coating produces a clear, soft, even-toned picture, which seldom fails to please, to produce a more intense picture, that is, one with strong lights and deeper shadows I use lighter coatings.

"*Mercury.* I use a mercury bath with a wooden top. Over the top of the iron bath I lay a piece of filtering paper and put the wooden top over it; of course before the mercury reaches the plate it has to be filtered through the paper. I keep my mercury at a uniform heat, sufficient to develop a picture in from two to three minutes. I make my own chloride of gold and apply more heat in gilding pictures than any one else, I believe, in the business. J. GURNEY."

All this to produce one picture! Compared with which the instantaneous exposure of a modern dry plate, its development automatically in a tank and the rapid production of developing-out prints looks like child's play. Photography has certainly made wonderful progress in the last fifty years and the end is not yet.

PICTORIAL PHOTOGRAPHY IN THE UNITED STATES

As we look back over the achievements of photographers in the United States during the last twelvemonth, we perceive no marked advance of any kind. Pictorial photography in the United States has reached a point, let us not say of stagnation, but of quiet preparation for another stride in advance. In no quarter do we find traces of marked activity, yet there is no portion of the pictorial field where earnest workers are not striving, as in past years. Let us hope that the time will soon come when an outburst of new activity will reawaken public interest in our art.

When our friends abroad think of pictorial photography in America, it is but natural that the Photo-Secession comes into their minds, for this militant organization for many years introduced to foreigners almost all of the American pictorial work which they saw. In the early days of the Photo-Secession every important foreign exhibition received an excellent collection of its work, but of recent years its activities in this direction have been very limited. We believe that Mr. Stieglitz has not collected American pictures for a foreign exhibition since the International Photographic Exposition at Dresden in 1909, although some of the work of the members has been shown in London on various occasions since then. We have not been much more fortunate in America, for the Photo-Secession has participated in no exhibition for a number of years, except the magnificent show organized by them in the Allbright Gallery in Buffalo some eighteen

months since. To be sure, the Little Galleries in New York are still kept open during the winter, but photographic shows have become more or less of a rarity there, and its walls are usually covered with exhibitions of drawings or paintings by various exponents of the more aggressive forms of modern art. Such exhibitions appeal very strongly to the jaded palate of the New York public and cause more of a sensation than exhibitions of photographs. Several of the more prominent members of the Photo-Secession are more seriously concerned with earning their living by photography, as for instance Clarence H. White, or improving their technique as painters, as is Steichen, than in producing photographic prints for exhibition, and aside from Mrs. Brigman, the newer recruits of the Photo-Secession do not seem to be stars of the first rank.

The only active force seriously engaged in the perpetuation of artistic photography in the United States is the American Salon, whose Ninth Salon will be held this year as usual in the art galleries of a large number of the more important American cities. The Eighth Salon, which has just closed its doors after a tour of ten or twelve cities, contained little of outstanding merit. The number of pictures accepted was strongly reduced from that of some previous years, and there were, perhaps, eighty works on the walls which were in all respects worthy of exhibition. The remaining pictures were all better than the average of previous shows, but the exhibition as a whole would have been strengthened by the omission of some of these. Because, however, of the much more rigorous selection last year, considerably more confidence is felt by pictorial photographers generally in the merit of the selection, and it is confidently anticipated that a stronger show than last year will be opened this fall. An innovation last year was that no foreign work was accepted, the Salon being strictly an American show.

A year or two ago we had in our midst a pictorial organization which seemed to give great promise of future results — the Photo-Pictorialists of Buffalo. This organization sent a very strong collection to Dresden, and has been well represented in Europe on various occasions since then.

During the last year, however, it seems to have come to an end as informal as every other event of its existence. The only information which can be gleaned is that the majority of the members decided that they would cease making pictures for a year, with the idea of returning to the work with a fresh vision at the end of that time. It is improbable, however, that this will come to pass, and we believe that the organization will never resume its activities. W. H. Porterfield was probably the strongest member, and he is continuing alone the work which the organization began.

Other pictorial organizations which followed in a measure the ideals of the Photo-Pictorialist have dropped out of sight, and we can at the present time chronicle the activities of but one working pictorial club. This is The Boston Photo-Clan, a group of congenial associates which, without rules or definite organization, meets at intervals to discuss pictorial photography and criticize each other's work. Its best-known member is John H. Garo, whose fame as a professional photographer is not confined to the United States. The other members are not as well known, but several of them display marked pictorial ability and they will probably be heard from in the exhibitions in the near future. This organization held a very success-

ful exhibition in Boston in the spring of 1912, and is preparing for another early in 1913.

The camera clubs and photographic societies of the United States seem to be doing nothing in the way of pictorial photography, and most of their activities have been severely restricted in recent years. The popularization of photography and the ease of present-day methods has caused them to lose the support of the newer generation of camera workers, and, as the older members resign or die, the clubs are likely to fall into a state of weakness and final extinction. If the clubs are not helping pictorial photography, however, there are a few ardent amateurs here and there throughout the United States who are slowly climbing upward into the ranks of the full-fledged pictorialists. They are helped in their isolation by the excellent reproductions and helpful advice of the editors of our most prominent photographic magazines, and their work attains publicity through the medium of these magazines as well as the American Salon.

The professional photographers of the United States have advanced markedly in the merit of their work in the last five years. No longer ago than that, it was a constant reproach that the average amateur was a better photographer than the average professional, but this can no longer be truthfully stated. At the 1912 exhibition of the Photographers' Association of America, held at Philadelphia, the professional exhibit, carefully selected by a jury, was of a remarkably high grade of excellence, and it was apparent that simplicity and careful delineation of character are becoming the ideals of our best professionals. Probably one of the greatest factors in this has been the assiduous exhibition in America, of important collections of photographs by Rudolph Dührkoop, whose strong work has been shown at American professional conventions every year for the last half decade. The American photographers are not copying Mr. Dührkoop's methods, but they have learned from him lessons of simplicity and directness which have stood them in good stead, and with the usual American adaptability they have applied these lessons to indigenous problems with marked success.

To sum up, though we cannot say that the successes of artistic photography in the United States during the last year have been spectacular, we realize that there is a steady progress toward truth here and there throughout the country, and feel sure that, after a natural pause, our American photographers will make progress again in leaps and bounds.—F. R. FRAPRIE, in *Photograms of the Year* 1912.

MADAME D'ORA ON HER METHODS

THE highly successful monochrome and color pictures which Madame D'Ora, of Vienna, has on show this year at the London Salon of Photography, have caused her name and work to be much before the public, and it will naturally interest those who admire her pictures to know something of her aims and methods. It will be a welcome emerging, so to speak, of the unknown personality behind the picture into the light of day.

It had always been her ambition from her earliest days to produce original work of her own. Long before she knew anything about photography

she desired to create something. It was a dream of hers to embody her own ideas of taste, beauty, and artistic originality in some concrete form. She felt within her the power to set forth human beings in the right frame to suit their mental outlook and bodily presentment. She feels that almost any artistic profession would have enabled her in a measure to realize her dream. She might have been a dressmaker, and have adapted the clothing of her customers to their individuality, or she might have been a milliner or a decorator, and used her gift through these channels; but, finding photography, as a means to her end, is well satisfied. One cannot help thinking that she has lighted on an eminently suitable medium for expressing her artistic ideas of persons and things.

Madame D'Ora is quite right to devote herself mainly to portraiture, since she is naturally gifted with a keen sense of discrimination in regard to the characters of those with whom she has to deal. Knowing almost by instinct—a particularly female gift, on account of the sympathetic natures possessed by the sex—the characters of her sitters, she is able to give them just the attitude, attire, and background necessary to harmonize their outward appearance with their inner self.

It is a curious fact that women who have come to D'Ora as models—themselves the slaves of fashion—have been so struck with the way in which she has expressed them in her portraits, the way in which she has interpreted them to themselves, that they have consulted her as to how to dress to the best advantage, and have followed her advice by casting off the fetters of fashion.

In dealing with children she believes in trusting to the models themselves. No forced positions, no studied poses are adopted. The little ones are left to play, with the camera unostentatiously ready at hand, and, so left, they never fail, she says, to offer unstudied grace and childish charm.

What she calls the essence of her way of working is this. As one would have supposed, she does not set to work to compose a picture according to the dictates of the text-books, but with her eyes only. Background, furniture, light, figure are all taken in through the eye, and the *tout ensemble* judged so, and when the right moment of suitability is reached instantly captured. Plates, papers, and all that, come afterward to put into concrete form the airy dreams of the artist's seeing eye. It is, she says, the eye of the artist, the conception which it has of the model, which makes the picture; all the rest is craftsmanship—*Amateur Photographer.*

CAN PHOTOGRAPHY REPRESENT MOVEMENT?

In view of the recent statement by Rodin, the great French sculptor, that photography fails to convey the sensation or idea of movement, the following article written from the photographic viewpoint will be found interesting.

Early Examples.—The desire to suggest movement and life seems to be as old as graphic art. For anything known to the contrary, we may say that the oldest, or perhaps we should say the earliest, drawings are those on some fragments of horn, bone, and ivory found by MM. Lartet and Christy in the cave of La Madeleine. These, no doubt, are the work of men of the stone age, and naturally enough they

depict contemporary animals, viz., the mammoth, cave-lion, reindeer, stag, etc. Though the drawings are crude enough, yet there is no doubt as to what animal is intended and moreover they all suggest living and moving things. The reader, doubtless, will be familiar with photographs of Assyrian and Egyptian sculpture suggesting man and contemporary animals amid scenes of life and action. By the time we come down to the Parthenon (437 B.C.), Phidias and his contemporaries had attained such magnificent skill in dealing with the living model that we are today left wondering if sculpture has not—as Paddy says—"advanced a step to the rear."

The photographer is, however, not so much interested in knowing what others have done in the past—though this is useful in its way—as in considering what the lens, plate and shutter will enable him to do nowadays.

Failures.—That many, perhaps most, photographic attempts at suggesting motion and movement are abject failures will not be denied, yet here and there may be found welcome exceptions which satisfactorily answer the question "Can photography suggest movement?"

Conventionalism. Unfortunately, artists from the beginning of time have often drawn not what they really saw, but what they thought they saw, and the lay mind without questioning accepted these conventions. Until half a century or so ago the galloping horse was conventionally represented very much like the wooden rocking horse of the nursery. Meybridge and others have shown us that the horse never takes this position. The camera man is saved one pitfall, for he cannot photograph any moving object of this kind and show something which does not exist. But while avoiding Scylla he may fall into Charybdis and depict a position that exists yet which the eye very seldom (practically never) sees.

Persistence of Vision. Every reader will remember the schoolboy trick of thrusting a stick into the fire on "bonfire night" and then withdrawing and whirling the glowing end in waves and circles, thus making "fire rings, snakes," etc. The effect is due to the well-known fact that an impression which may only really last, say, one thousandth part of a second seems to last almost one-twentieth of a second. So that if the glowing end of the stick makes a complete circle in one-twentieth of a second we shall see not a travelling point of light but a complete and stationary circle; because the glowing end has got back again to its former position before the first impression on the eye has faded away. This figure, viz., one-twentieth of a second, must not be taken as a hard and fast limit, for it varies slightly in different individuals, with the strength and color of the light, whether the eye is fatigued or not and so on. These variations, however, need not now concern us. The important practical point is that in the case of objects in moderately rapid motion, *e. g.*, a running man, trotting horse, etc., what we really see is a continuous blending of positions just as in the color spectrum we do not see red, blue, green, etc., but a gradual merging of one color into another.

Shutter Speeds. Therefore if the shutter works too quickly we shall cut out a narrower slice of time than the eye isolates, and on the other hand, if the shutter goes too slowly we shall include too many consecutive positions and get more than the eye requires to make up into one impression. We may also get a degree of blur which is unsatisfactory.

Rapidity of Vision. The reader may be reminded of an experiment which he probably has seen and forgotten. A disk of card is painted in sectors of various colors—red, gree, blue, etc. The disk is caused to rotate say a hundred times or more per second. In daylight or continuous artificial light we do not see the various separate colors, but a monochrome blend of the lot. The room is now darkened and a powerful electric spark of very brief duration illuminates the rotating disk, when we see its several sectors in all their various colors, and it is at first difficult to believe that the disk is not at rest.

Lightning. At night a flash of lightning may illuminate a landscape where there is a train travelling at a considerable speed; but the lightning flash is so brief—cuts such a narrow slice out of the continuous band of time—that the train appears to be stationary. Similarly a rapid shutter exposure on a breaking wave subject may give us a quite wrong impression. In one sense these very brief slices of time are true, and yet they do not convey the impression of truth.

The Zoetrope of our nursery days and the cinematograph displays of the present day are abundantly familiar instances of the persistence of vision which blends together a series of separate impressions. These may be profitably studied by the photographer interested in depicting motion because they illustrate the importance of careful adjustment of the speed of picture change to suit special instances of movement—a nice point which the public operator does not seem to have realized; for it is customary to see him "turn the handle" at one and the same speed for all his rolls.

Sharpness of Image. The next point is that the displacement of the image on the sensitive plate during the time the shutter is open must not be so great as to cause an unpleasant degree of blur. If it be less than $\frac{1}{100}$ of an inch most people will fail to notice it, unless special attention be directed to the matter. In certain cases—and especially objects of continually changing form, such as breaking waves, storm clouds — a slightly noticeable blur better accords with our impression of nature than does a sharply defined picture.

Facial Expression. The same thing applies to studies of fleeting facial expression. A sharply defined photograph of a laughing face soon becomes a horrible grimace. The indication of change of feature is of the very essence of the matter. Then again a slight softening of the image is a far better aid and stimulus to the imagination than is a sharply defined picture. And it must never be forgotten that, as our framed prints cannot move, we must therefore rely largely on suggestion and an appeal to memory and imagination.

Typical Moment. Another most important element of success is the wise choice of the actual moment of exposure. In nearly all cases there is one—sometimes more than one—position or moment which expresses movement better than any other position. Take for example the blacksmith forging a red-hot horseshoe on his anvil. As blow follows blow there are two periods of brief rest, viz., when the hammer ceases to rise and begins to descend and also the moment when the hammer hits the iron. A photograph of the first position, the uplifted arm, suggests motion, but the second position may suggest that he is resting the hammer on the anvil. To photograph the man in a position between the beginning and end of the stroke might suggest motion, but not the vigorous action of the uplifted arm

Similarly the moment to catch the reaper is either at the beginning or end of the swing of his scythe as he mows his swath. So also the oarsman should be caught at the beginning or end of his swing, the leaper just as he springs from the earth, and so on.

Scientific v. Pictorial Truth. It will be noticed that in some of the above cases the position which best suggests motion is not the actual moment when the greatest movement is taking place but actually the very moment when there is no movement. In other words, we photograph a brief period of rest and it suggests motion.

Take another case, viz. a man walking along the opposite street and across the line of sight of our camera. We may by chance catch him at such an instant that one leg is completely hidden by the other. This is scientific truth, but it suggests a man with only one leg and is not pictorially true. There is no need to multiply instances of man and animals caught by the camera in such positions that would be at once condemned as impossible had they been drawn by hand and not by the lens.

Space to Move. A little matter of some importance is that such objects as children in a swing, etc., must have enough picture space shown so that the mind is not led to think the swinging child will in the next moment swing "bang" up against the frame or right out of the picture. It does not give a pleasant impression to see a figure just stepping into or out of the frame, but we may provide a door or archway for his exit or entrance.

Direction of Movement. Objects moving directly toward or away from us, or at right angles to the line of sight, do not suggest motion in so pictorially agreeable a manner as when they are moving in a direction oblique to the line of sight. This is easily verified by watching yachts and other water craft in motion.

The crux of the matter is this. Is it desirable from a pictorial or æsthetic standpoint to attempt to depict or suggest motion? Objects in rapid or violent motion very seldom are suitable for picture making. It is among the quieter aspects of nature, the waving cornfield, the gently swaying branches in the orchard, the lapping wavelets along the lake side, the dreamily flowing stream, that are associated with the finer æsthetic perceptions and reflections. The grandeur of the ocean storm and other great forces inspire us with wonder, fear, and awe, but they are not the scenes upon which the mind prefers to dwell. But the pictorial artist is more wisely concerned with those scenes and thoughts to which the æsthetic faculties turn and return for calm and subtle enjoyment.

COMPOUND DEVELOPERS AND THEIR EFFECTS ON GRADATION

PYRO-METOL and metol-hydroquinone are such popular developers at the present time that one hardly gives a thought to their composition, so natural does it seem that pyro and metol, and metol and hydroquinone, should be yoked together. But if pyro alone were perfect we should not mix metol with it, and similarly if metol were quite satisfactory we should not combine it with hydroquinone.

According to theory, any developer may be modified in constitution so as to produce any class of negative. In his early days the photographer is taught that "more pyro gives more

contrast, more soda gives less contrast," and so on. But in practice it works out that the best result is most readily obtained by hitting upon a mixture of two developing agents of widely different properties. Pyro-metol and metol-hydroquinone are merely types of a certain class of developer, and examples of an excellent system.

The artistic photographer arrives at his results not so much by following general rules as by exercising individuality in technical work as well as in choice and pictorial composition of subject. To be master of technical operations is quite essential to pictorial success, and as the gradation in the negative is of primary importance, the study of developers assumes an equally important aspect.

All developing agents are substances which are capable of reducing exposed silver bromide to metallic silver. The latent image is invisible and consists of exposed silver bromide; the negative image is black and consists of metallic silver. The bromine has therefore to be separated or split off from the silver bromide, and is either absorbed by the developing agent or made to decompose the water present, the liberated oxygen of which combines with and oxidizes the chemical reducer.

Now the readiness with which the developer reduces the silver bromide varies considerably with different agents; some work slowly—hydroquinone and glycin for example; others work rapidly—metol and amidol are types of "energetic" developers; so active is the latter that it does not even require an accelerator, such as carbonate. In selecting a developer, therefore, we want to have some definite idea of the relative properties of the most common agents and to prepare a formula most likely to answer a given purpose.

The object of this article is to point out the advantage of the principle of keeping separate the two developing agents, and to mix them in varying proportions according to the gradation desired in the negative, rather than to increase or decrease the amount of alkali.

Take the case of metol-hydroquinone as a typical example. Metol is a rapid-working developer capable of giving a very long scale of gradation, extreme softness, etc. Hydroquinone is a slow-working agent, capable of yielding great density, and a great—sometimes undersirable—amount of contrast.

Combined in the usual way we get a developer which works fairly rapidly, and gives a bright, plucky negative of the type admired chiefly by raw amateurs.

But suppose now we prepare two separate solutions, one a full-fledged metol developer which will yield intense softness, the other a hydroquinone developer which will give a harsh negative. By mixing these in varying proportions we may prepare a whole variety of developers, each one giving a different quality of gradation. The method applies equally well to plates and papers, and is indeed invaluable where we have to print on bromide paper from a varied lot of negatives.

Such a formula, in two solutions, would run as follows:

A. Metol, 18 gr.; sodium sulphite, 380 gr.; sodium carbonate, 450 gr.; water, 10 oz.

B. Hydroquinone, 70 gr.; potassium metabisulphite, 24 gr.; sodium sulphite, 200 gr.; sodium carbonate, 550 gr.; potasisum bromide, 4 gr.; water, 10 oz.

Pyro-metol is deservedly popular for general work, as the density-giving powers of pyro and the crispness (when combined with the exquisite gradation-giving properties) of metol enable a

thoroughly serviceable developer to be prepared. But here again we may exercise discretion as to how we proportion the pyro and the metol, bearing in mind always the characteristics of these two reducing agents. A one solution pyro developer is impossible in practice, hence in this instance the two reducers must be mixed together. By using equal parts of each we get a good all-round developer, and the following will serve as a good starting-point to experiment from:

A. Pyrogallol, 50 gr.; metol, 50 gr.; potassium metabisulphite, 120 gr.; potassium bromide, 20 gr.; water, 20 ounces.

B. Sodium carbonate, 5 oz.; water, 20 oz.

Equal parts of *A* and *B* are mixed for use.

Eikonogen and hydroquinone work very well together, as also do edinol and hydroquinone. But it would be impossible to recommend a combination to suit everybody. As, however, it is clear that advantages can be derived by suitably combining two agents of different properties as regards the scale of gradation, quality of contrasts, and so forth, the following general lines on which a good developer may be arrived at will be given in conclusion.

Any agent which we want to test can be mixed, for a start, with eight or ten times its weight of sodium sulphite and one hundred times the quantity of water; thus kachin 1 part, sulphite 8 parts, water 100 parts could form the "*A*" solution. A ten per cent. solution of crystallized sodium carbonate could form "*B*." Equal parts of each mixed would act as a developer, and should always be first tested without the addition of bromide. A test plate can be exposed on some suitable subject, and the character of the resulting negative examined. We know (1) that by increasing the proportion of carbonate, development will be more rapid and softness greater; (2) that by increasing the proportion of reducer (metol, etc.), development will be less rapid and density greater.

As a general rule, each developer will be found to work best when it gives a certain character of negative under certain circumstances. If that character is not what we want, it can always be obtained by mixing the developer with another which modifies it in the right direction. Discretion must, of course, be used; thus no one would think of mixing pyro-ammonia with amidol or ferrous-oxalate!

When a combination has been arrived at which works satisfactorily, an aggregate single formula can be prepared. But wherever possible we would emphasize the advantage of having two separate formulæ, as in the given instance of metol and hydroquinone, which can be mixed in varying proportions according as circumstances require.

"THE EDITOR REGRETS ——." UNPROFITABLE PRESS-PHOTOGRAPHY

THE ever-increasing demand of present-day journalism for photographs illustrating any topic of news interest has opened up a field of profit for photographers which, but a few years ago, was non-existent. It is now almost the exception to find a daily paper which does not devote some portion of space to illustrations of current events, or of persons who

are, for the moment, in the public eye. The demand is, of course, largely supplied by the photographers on the staff of the various papers, or by the agencies who cater for the needs of the illustrated press; but there are many occasions when the local photographer, whether professional or amateur, may make an appreciable addition to his income by the supply of photographs for newspaper reproduction. Those inside illustrated daily and weekly journalism are greatly impressed by the number of photographs submitted which, although the subject may possess a real news interest, are so utterly unsuited to the requirements of press illustration as to court immediate rejection at the editorial hands. Probably not more than 5 per cent. of the many photographs which are daily received from outside sources are accepted for publication, and the reason for this low average is to be found, not in the lack of demand, but in the inefficiency and unsuitability of the supply. The inference which one naturally draws from this state of affairs is that many photographers attempt the production of news photographs without possessing even an elementary knowledge of the principles and requirements of this branch of their profession. It is, therefore, chiefly in the interests of these workers that the following remarks are written. The two essentials of a successful "news-photo" are that it should depict some incident, or subject of current interest, in the most graphic manner possible, and that it should possess those technical qualities which render it capable of reproduction by the half-tone process.

To treat of the first essential leads one to make the assertion that the ideal press-photographer is a hybrid—produced by the "grafting" of the journalistic instinct on the technically skilled photographer. The faculty of observation, coupled with the ability to distinguish between the commonplace and the unusual, enables one to estimate the news value of a subject, while the technical skill is necessary to enable one to produce reasonably good results in the varying and often extremely difficult conditions under which the press-photographer is called upon to work. A large proportion of photographs are rejected because of their lack of interest to the general public; but a surprisingly large number are condemned because, although the subject illustrated is of sufficient interest to justify publication, they are submitted in such a form that reproduction would entail the expenditure of more labor and time than the hurry and hustle of newspaper production will permit. It is an admitted fact that, if the subject is of exceptional interest, editors will always go to the utmost limits to obtain a printable block from a bad original, but many photographs of more than average interest are rejected because they are technically unsuitable for the methods of reproduction. There seems to be a prevalent idea that if a photograph is intended for newspaper reproduction "any old thing will do," and the contents of the editorial W. P. B. offer liberal testimony to this fallacy in the shape of prints of every degree of inferiority. There they lie, over-printed, under-printed, stained with every hue of the rainbow, and toned to every color from green to vermilion, when, by the exercise of a little ordinary care and skill in their production, they might have brought to the pockets of their makers the ever-welcome half-guineas as fees for their reproduction. It is not only the inexperienced amateur who offends in this direction: A professional photographer will often be found

submitting an over-printed contact print on matt gaslight paper from a $2\frac{1}{2}$ x $3\frac{1}{2}$ negative—a photograph which will be rejected in favor of a less-interesting print of the same event made on glossy bromide and enlarged to 5 x 7.

The process of reproduction in the form of printing blocks is such that a perfect result can only be obtained from an original possessing a fair amount of brilliance and contrast; and, as the detail suffers considerably through the necessarily coarse screen of the block which the rapid printing methods demand, the original print should show as much detail as possible, especially in the shadow portions of the photograph. It is this demand for brilliancy of detail which makes a glossy print preferable to a matt surface, and, as color is an important factor in the reproduction process, a red-toned print should be avoided. If daylight printing is preferred, the best result is obtained from a P.O.P. print toned to a purple-black; but as speed is a great consideration in presswork, printing is usually best done by artificial light on bromide or gaslight papers, both of which are admirably adapted to the needs of the process engraver. As it often happens that the subject of interest occupies only a small portion of the negative, it is evident that there are many negatives from which contact prints would be too small to be of any value for reproduction, while the same subject enlarged two or three diameters might be excellent in every respect. This is the case in so many instances that the photographer who wishes to make press-work profitable will be well advised if he makes a practice in all work intended for reproduction of printing by projection rather than by contact. An additional advantage of the projection method is the greater speed with which prints can be made from the wet negative. This is an important point, as a photograph which has a valuable news interest today will most probably be "stale," and therefore unsalable, tomorrow.

In conclusion, let us again emphasize the fact that to achieve success in press-photography it is necessary to consider the requirements not only of the editorial but also of the engraving department. By adopting the maxim, "Nothing but the best will do," the photographer will find the result in the increase of cheques and a decrease of "The Editor regrets . . . ."—*British Journal of Photography.*

TRACINGS FROM PHOTOGRAPHS

WHEN the artist does not want the trouble of making a negative and then a bleaching print from a photograph there are various ways of using transparent tracing mediums laid on the photograph. Tracing paper, known as "paperi végétal," can be obtained, and is very transparent. It can be attached to the photograph at the two top corners by pellets of wax, and the tracing outline made with pen and ink. The tracing paper is too yellow for photographing from, but it can be attached to a piece of Bristol board with set-off paper interposed and a set-off made with the stylus, following the ink outline.

The set-off paper above referred to may be bought ready for use, or it may be made by taking a substantial and

rough-surfaced tissue paper and rubbing one side with a powder color. For lithographers' tracings to stone red chalk powder is preferred, but it is objectionable to use red set-off paper for process drawings, because any uncovered or smeared red lines will photograph as black. Black lead is equally objectionable because of its being liable to photograph if at all strong; also because black or gray-black tracing lines seem to confuse the artist when inking-in the drawing. On the whole we prefer powder-blue, and there is nothing cheaper, better, or more easily obtained anywhere than laundry blue. When this paper is interposed between the sketch and the board the pressure of a hard pencil (such as H H H H) or a steel or ivory tracing-point on any part of the sketch makes a corresponding blue mark on the cardboard. The principle is the same as the manifolding of writing, but the artist must be cautioned against supposing that the greasy black or blue "carbonic" papers can be used for the purpose; they would only make a mess of the drawing, which would then not photograph cleanly. By using blue set-off paper no trouble at all occurs, even if some of the blue is left on the drawing, as the blue does not appear in the negative. Moreover the blue lines do not interfere with the artist seeing the proper effect of his black lines.

When a photograph is unmounted and it does not matter if it is marked with a stylus, a set-off can be made direct from the photograph by attaching it to the cardboard with set-off paper interposed, and tracing over the outline contour of the photograph. There is a considerable gain in accuracy in this way, especially when drawing portraits.

When the photograph is sufficiently clear in its details to show through, white tracing paper may be used, and the drawing being made in ink the actual tracing may be photographed.

To render thin white paper more transparent rub it over with a tuft of cotton soaked in benzole. This is done when the paper is attached to the photograph, and it immediately makes the paper beautifully transparent, revealing the finest details in the dark shadows of the photograph. A drawing is now made with pen and ink, more benzole being applied as it evaporates. The benzole does not at all interfere with the drawing in ink. When the drawing is complete the benzole is allowed to evaporate and the paper resumes its original opacity. Of course, benzole must not be used anywhere near the flame of a lamp, gas, or fire, or a flare-up will most probably ensue.

Another way of obtaining the guide for drawing is to make a ferrotype positive—popularly known as "tintype." This is made in the same manner as a wet plate, the sheet of metal being substituted for glass, or ferrotype dry-plates ready sensitized can be obtained. A piece of thin transparent gelatine or celluloid is attached to the plate by pellets of wax, and the tracing made by scratching with an etching point. Powdered black lead or laundry blue is dusted over the surface and fills in the scratched lines, and by placing the tracing on a piece of Bristol board, line side down, and rubbing the back with a burnisher, the lines are transferred. The ferrotype giving a reverse image, the turning of the gelatine face down again reverses the picture and produces it the right way.

But for this disadvantage of reversal the gelatine tracing is preferable for outlines from ordinary photographs. Another way, however, of using these materials is to draw on them with pen and ink instead of scratching the lines with an etching point. The lines cannot be drawn so well as on paper.

but with practice, and by using as little ink as possible, very good results may be obtained. A piece of white cardboard is placed behind the gelatine or celluloid when photographing from them. The celluloid or gelatine must be very thin, or it is apt to be yellow, and consequently bad for photographing. There is a matt celluloid which is very good for pencil or ink drawings, but the matt surface interferes with its transparency.

In setting off a tracing, or indeed, in making a tracing in any way, the artist will be well advised to lay down as few lines as possible, or the tracing will only confuse. The lines must only suggest form and outline and the limits of shading. Again, when inking-in the drawings there is a strong tendency on the part of inexperienced artists to follow the traced outline too slavishly and fill in a lot of unnecessary detail. It is no good commencing at the top of the tracing and working from left to right and downward, as if doing a drawing in a copy-book. Let the artist place the tracing and the photograph side by side, and start filling in a few "blobs" of black to represent the deepest shadows. It is surprising how the drawing will begin to stand out, and a very few fine outlines and bits of detail will be necessary to complete the picture. By leaving the drawing strongly black and white and simple in outline the sketch will not be likely to "give away" its photographic origin.—W. G., in *Process Work and the Printer.*

HOW TO LOOK AT PICTURES

BY W. NORWOOD

WE have all heard of the old woman who could not see the wood because there were so many trees in the way. She is not without her descendants at the present time, who, on going into a gallery of pictures, admire the beautiful frames, recognize some of the people or places depicted, and go home to tea and shrimps in a happy state of mind "conscious of rectitude," and explain to all and sundry that they have "done the Academy in good time this year." But have they really seen one of the pictures? They may have seen the frames and the paintings they contained; but have they seen the *picture?* For it is quite as easy to look at a picture and only see a painting as it is to read a page of a book with the eye or the lips, and yet the wandering mind receives no thought, no idea, no impression.

Again, we may read one of Scott's novels for instance, and only appropriate its historical aspect, or its archeological information, or the quaint dialect and phrasing of the characters, and entirely miss the artistry of the plot, the unfolding and interweaving of interests, exposition of character, the poetry and romantic side of the story, the lights and shades of the human interest as they move us now to laughter, now to tears.

Similarly, as we stand before a canvas from the hand of a master, we may easily look for what is not there and fail to see very little of what is there. We may be interested in the place depicted merely because we happen to have visited the spot ourselves at some time, and think we have done something rather clever in having "found out" where the artist got his

picture, though we do not see his real picture at all.

Now, in reading a book most of us recognize at once and without discussion that the *matter* comes before the *manner*, that what the author has to say is of more importance than the way in which it is said; although, of course, we prefer the tale well told be it "a story, a song, or a sermon." But if we have to make choice between one who has interesting matter to say and says it with rugged straightforwardness, lacking the polished periods of the orator, or another who has nothing to say, and also says it with a torrent of eloquent phrases, we are not long in making our choice. But in the matter of reading a picture many, perhaps the majority, give little or no heed to what the artist has to say, and are only interested in his manner or his mannerisms. Many photographers are terrible sinners in this way. They are so much concerned in the focal length of the lens, the printing and toning process used, and such-like matters of *craft*, that they have no eyes for the *art* of the worker.

Now, surely it needs no argument to teach us that the first question one should ask oneself on looking at a picture is, "What is the artist wishing to tell us? What thought or sensation does he wish to suggest?"

Sometimes the message is at once conveyed to our minds. At other times we fail to see his aim. But this may be due to our own lack of perception or sympathy with the artist's temperament, or it may be that the artist himself had not a clear conception before his mind's eye. It may be that the artist is dealing with some theme which lies outside our responsive powers. For example, the subject may be some classic myth of which we have no knowledge, or it may deal with a subject in which we take no interest. In such case we are handicapped at the start. But still, if he be a great artist, he will tell us something of the poetry of the theme, so that we may have a general comprehension of the matter.

Our present object is to prompt the reader, whenever he looks at a picture of any kind, first of all to try and see what the artist was aiming to express or say in the picture.

Do not trouble about whether it is well or ill done, whether it is a painting, engraving or photograph; but just simply and first of all try to get clear in mind what the message is. It may be an appeal to some life incident, such as greeting, surprise, sympathy. It may be the expression of motion, of mountain altitudes. It may be some delicate and subtle effect of light and shade. It may be some design in graceful line, and well-balanced spacing and massing. It may be one of a thousand things, but whatever it is we shall not truly see the real picture until we are *en rapport* with the artist in his aims.

This point reached, we can then profitably begin to consider how the result has been gained, and see the *art* behind the Art, and study the framework, the anatomy of the work. But this belongs to another story, and must be reserved for future consideration.

A Metol-hydrochinon Developer for gaslight papers is made as follows: Metol, 23 grains; hydrochinon, 52 grains; sodium sulphite, 1 ounce; sodium carbonate, 1¼ ounces; water, 10 ounces. Use without diluting, and for each ounce of the solution add ½ grain bromide potassium. This is an excellent developer for time development. To use take 1 ounce to 20 of water.

By Lydi Frensdorf

By Katha Harnecker

By H. Junior
Frankfort on Main

By Theo. Hilsdorf
Munich

By Elizabeth Hecker
Munich

By Artur Ranft
Vienna

By S. H. Lifshey
Brooklyn

By Dr. Paul Cohen
Vienna

By Theo. Hilsdorf
Munich

By Grete Back
Dresden

By Otto Ehrhardt
Coswig

THE ARGUMENT

By S. H. Liebsky, Brooklyn, N. Y.

A FIGURE STUDY

By S. H. LIFSHEY, Brooklyn, N. Y.

1 Jean Charles de Cordes

2 Dr. Van Thulden

3 Isabella d'Este

4 Anne of Austria

Illustrating Sidney Allan's Article

5 Self Portrait

6 Helen Fourment

7 Rubens and his first wife

8 Bust of a Young Man

Illustrating Sidney Allan's Article

9 The Straw Hat

10 Isabella Brandt

11 The "Oriental"

12 The Painter's Two Sons

Illustrating Sidney Allan's Article

MASTERS IN PORTRAITURE—PETER PAUL RUBENS

BY SIDNEY ALLAN

RUBENS, although more familiar to the art lover by his semi-religious and allegorical paintings, was one of the foremost exponents of portraiture of all time. It is now about three hundred years ago since he was in his prime—and yet hardly anything has been added to make portraiture more perfect than in those days when he wielded the brush. He had complete mastery over this particular branch of painting.

He had studied the works of Titian and Veronese, during a sojourn in Italy as a young man, and one of his pupils was van Dyck. This explains his peculiar position as a portraitist. In his time portraiture had not yet been "specialized;" it was no profession as it was with van Dyck and Franz Hals. Only the rich indulged in it, and its practice was a pastime to the painter. Rubens was of nobility by birth, and for a time served as page at the Flemish Court, so he was well equipped to depict the rich costumes and accessories of queens, courtiers, and the ladies of the aristocracy.

As a German critic has so aptly said, Rubens always painted *fortissimo*. Not that he could not master a sober character study, as we see, for instance, in the portrait of Dr. van Thulden (Fig. 2); but he preferred to make the most of every subject in regard to energy and brilliancy of performance. He was always striving for a picturesque effect, and he apparently painted with much ease and had such a keen sense for grouping that lavishness and abundance of detail were almost a necessity to him. More than twelve hundred canvases are credited to Rubens. Dying at the age of sixty-three, he had a career of about forty-four years of actual practice behind him. This is an astounding number. It means about thirty canvases per year, and considering that most of them were of gigantic size, often crowded with a hundred figures or more, the critical observer must come to the conclusion that this painter worked without much calculation and forethought, in true *improvisatore* fashion. The inspiration of the moment was his sole guide, and no doubt he executed many a portrait in a single forenoon, just as an exercise for the more serious work on some big composition in the afternoon.

Many of his portraits in consequence look careless, as if he did not exert the best that was in him. But they are always full of life, and despite certain incongruities in the background, somehow never fail to produce a harmonious ensemble. Many, for instance Figs. 4, 6, and 9, look restless and broken-up in the black-and-white reproductions; this, however, is hardly noticeable when one sees them in color.

The simpler portraits, like Figs. 1, 2, and the self-portrait, Fig. 5, are free from any exaggeration. They are beautifully lighted, massive, and as straightforward in their character delineation as they can be. Fig. 5 as a tonal composition, a simple silhouette of form with lighted face and color against a semi-dark background, is without a flaw. Of particular interest to modern workers should be Fig. 2. There we have a simple interior, an even light, a figure full of detail, and yet a wonderful concentration of interest in the face and hands. Fig. 1 shows a masterly handling of detail,

neither chain, ruche, row of buttons nor ornamented sleeve seem to injure the importance of the face.

The "Bust of a Young Man," Fig. 8, is very boldly painted. No doubt it is an excellent interpretation. But it is hardly a pleasing composition, although it is difficult to point out any faults. The light planes are not in perfect balance with the darker ones, and this is largely due to the size of the head and the hands.

Figs. 3, 4, 9, and 10 are some of the female portraits which have made the painter famous. We notice as a striking characteristic that this painter always shows a good deal more than the bust, even in standing figures, as Figs. 3 and 9. The face was not everything to him; he also wished to reflect the personality in the bust, the hands, and the gorgeous costume. The picturesque gowns of that time lend themselves particularly well to this method of depiction. They were so bulky and elaborate in ornamentation that they always filled the lower part of the picture. In this way the pyramidal shape was preserved, although it frequently looks more like a small oval placed on a polygon. This combination is sure to give to any figure an air of solidity and opulence, such as the women of Rubens' time seem to have possessed. Peculiar is the little triangular shape in the lower left corner in Figs. 9 and 10. It helps to break the heaviness of the understructure.

Astonishing is the clearness of the shadows of the face in nearly all of Rubens' portraits. They are absolutely transparent. This gives an added brightness to the face. It is drawing in a tone consisting of slight modulation in middle tints. It is one of the proper ways to treat a face. The character is more easily delineated, as long as the drawing is accurate, and the facial expression is sure of being a cheerful one. The management of folds in these pictures, in particular in Fig. 10, is superb, but not so much the result of arrangement as the picturesqueness of the costume itself and the skill of the wearer. Folds of this kind can be produced only by heavy materials, and much of their elaborateness comes directly from the tailor's shop. This is mentioned only to warn modern portraitists from futile imitations. It is invariably the material which decides the possibilities of draping and all arrangements are limited thereby.

We now come to full-length seated and standing portraits. Fig. 6, the portrait of Helen Fourment, Rubens' second wife, would be more harmonious with a simple background. This column and curtain effect seems to have been a forerunner of the now so clap-trap Gainsborough background. It is surely in bad taste and inappropriate, as it takes away considerably from the interest in the figure. The vista out on the balcony makes a silhouette it would be difficult to call beautiful. The famous portrait of "Rubens and his First Wife" (Fig. 7) is elaborate, but harmonious despite its profusion of line and textural effects. It is the simpler, dark-foliage background which saves this picture. The detail is handled with remarkable precision and dexterity.

The "Oriental," Fig. 11, is well placed. The character is depicted with the painter's usual energy and strength. The figure almost comes out of the picture, toward you. Rubens' portraits never recede into the background, like Whistler's. They freqently look as if they were modelled in relief. This gives the impression of health and strength and exuberant power. There is no classic restfulness in these figures, and yet they look distinguished despite their sturdy and

corpulent demeanor. The background is bad as far as it shows the division line of the carpet and the plain background. Rubens seems to have been fond of painting the same carpet, as it is the same in this picture as in Fig. 6. The introduction of the Oriental "insect chaser" to the left is a mere caprice, but its line helps the figure. That part of the picture would have been too empty without the introduction of some line or object.

An exquisite portrait is that of "The Painter's Two Sons." It almost looks like a van Dyck. It is so gentle and elegant in outline and pose. It is very likely that this and similar pictures by his master greatly influenced van Dyck.

The talented men of one generation always utilize and build upon the accomplishments of the preceding one. Sometimes they improve upon it, just as frequently they distort its merits. Yet progress, evolution, development are possible only in this manner. We still can learn from Rubens, but only essentials and fundamentals. We cannot pose our contemporaries in the same manner as he has done, as costume, custom, manners, deportment, and the outward appearance of human beings have completely changed.

A study of the Old Masters, at its best, yields only theoretical knowledge. The practical application of their principles and methods is an entirely different matter.

PHOTOGRAPHS UPON WATCH CAPS AND DIALS IN SILVER AND CARBON. PRACTICAL INSTRUCTIONS WITH WORKING FORMULÆ

(Concluded from page 443)

IN the two preceding papers of this series we have learned how to produce photographs in silver on the caps, lids, or dials of watches and similar articles. In this paper the instructions given will cover the production of the same class of pictures in carbon. The process to be described is that in general use by commercial photographers who undertake this work for the trade, and can be relied upon as thoroughly practical for its purpose. The pictures so produced are, of course, permanent and indestructible.

Like all good photographic work it demands care, and skill is attained only by perseverance and experience.

The carbon tissue best adapted for this method is that known as Lambertype purple. Warm-black, brown-black, and engraving-black tissues are also used, but Lambertype purple gives the most pleasing results. We will require several enamelled iron trays about 12 inches square, and an additional tray 12 x 16 inches.

Having procured a supply of carbon tissue of the color desired, cut it up into pieces 8 x 10 inches, and store it under heavy pressure in a printing-frame until required for use. It is well to have the printing-frame fitted with a piece of plateglass, or two thicknesses of ordinary glass, to permit of strong pressure.

The sensitizing solution is made up as follows:

Bichromate of potash (recrystallized) . . .	2 ounces.
Ammonia carbonate .	40 grains.
Water (filtered or boiled)	50 ounces.

When complete solution has been obtained, add:

Salicylic acid	40 grains.
Hot water	4 ounces.
Glycerine	30 drops.

Mix the combined solution thoroughly, filter, and allow it to stand for several hours before use. When ready to sensitize the tissue pour the sensitizing solution into one of the enamelled trays and immerse one piece of the tissue completely in the solution. It is advisable to wear rubber gloves or stout finger-tips when sensitizing carbon tissue, as the bichromate attacks the skin about the finger-nails, and is apt to produce troublesome sores with some people. The sensitizing should be done in a room where the windows are screened with orange or yellow paper or fabric (not ruby). As soon as the tissue is thoroughly immersed, remove with a match-stick or finger-tip any air-bubbles which appear on the surface of the tissue. Turn the tissue face down in the solution, and rock the tray to prevent the tissue adhering to the bottom of the dish. Allow it to soak for three minutes, then remove it by two corners, drain off the excess of sensitizing solution, and lay it face down upon a perfectly clean sheet of glass 14 x 17 inches. Now carefully wipe off any excess of solution from the back of the tissue, using a squeegee for this purpose, and commencing at one end of the paper with slight pressure and employing a pushing movement. Now repeat this operation, beginning at the opposite end of the paper and employing a drawing movement. The object of this squeegeeing is to remove all superfluous solution, and give a flat, even surface to the tissue. Finally, wipe the back of the tissue dry with a piece of clean, soft rag.

Lift the tissue by the two top corners, grip these with two wooden clips, and suspend the now sensitized tissue to dry in a clean, dry room or closet free from dust and white light, because when the tissue is dry it is very sensitive to light. Several sheets may be treated in this way. When dry keep the sensitive tissue flat under pressure in a printing-frame, as already described, but taking the precaution to cover the front of the printing-frame with two thicknesses of black paper.

When sensitizing is completed, filter the sensitizing solution back into a suitable bottle, and keep this away from the light. It can be used half a dozen times if desired, after which it should be thrown away, and a new solution prepared for use. Tissue prepared as above described will keep in perfect condition for two weeks, but not longer.

The negative required must be a reversed negative because the single transfer is used, the print being developed direct upon the watch dial, cap, or lid, as the case may be. Having decided upon the size of the picture desired (let us suppose the watch cap to be decorated is 1½ inches in diameter), take a pair of compasses, with a lead-pencil as one of the legs, and describe a circle on a piece of orange or black paper (slightly smaller in size than the watch cap), and attach this with gum to the front or glass side of the negative with careful adjustment. Now cut a second mask, the diameter of which is 1½ inches, place this on the film side of the negative, so that it will allow an even circular edging to be seen upon looking through from the glass side of the negative with the smaller mask in front. Attach this second mask in its place with a touch of gum. This circular edging is of importance, as it forms what is known as a safe edge.

Now fit the negative upon a piece of clean, selected glass, say 4 x 5 inches, so as to occupy the centre of the glass, and hold it to its place with pieces of

gummed paper. If any vignetting is to be done, let this be done on the outside of the glass plate which holds the negative, by stumping in with Gihon's opaque or Strauss' marl. Proceed to cut a disk of sensitized tissue, in orange light, of course, using a cardboard disk which just fits the smaller of the two circles as a gauge. Be sure to mark the figure T at the top of the piece of tissue where the head of the figure comes. Mark the top of the mask in the same way. In this way you will know how to attach the exposed tissue on the dial or cap for development, otherwise the portrait might be upside down. Bear in mind, also, that the hinge of the watch cap must be kept to the left hand, as the majority of watch caps are so fitted to their cases. The top is thus easily ascertained.

Having fitted the tissue in place on the negative in the printing-frame, close the frame with its felt pad, take another printing-frame carrying a second negative similar in character to the miniature negative with a piece of ordinary silver paper in contact, and put both negatives out to print together. After a few minutes take both printing-frames into the room with the orange light and examine the progress of the silver print (not the carbon print). If it is about one-third done, the carbon print has had sufficient exposure. If not, place both frames out in the light again and complete the printing.

When the carbon tissue has had sufficient exposure proceed as follows: Make up a solution of

White Sugar	2 ounces.
Water	4 ounces.

When the sugar is completely dissolved, filter the solution and pour it into a small procelain tray or pie-dish. Take the matted watch cap (after cleaning in lye and washing as described in the second article) and immerse it in the sugar solution. Next immerse the exposed carbon tissue completely in a second small dish filled with water. When the tissue lies limp and flat, remove it from the water and dip the cap and tissue together in the sugar solution. Pass the tissue carefully over the cap and see that the mark T is at the top and the hinge to the left hand. Now gently press the tissue into contact with the cap, using the thumbs of both hands for this purpose. Place the cap upon a piece of blotting paper and in its hollow put a piece of thin India-rubber cloth. Gently stroke the cloth with an ordinary rubber eraser, using it as a small squeegee to secure perfect contact between the exposed tissue and the surface of the cap. This operation requires care and patience. The cloth should be stroked from the centre outward, the cap being turned round gradually so that all moisture and air are excluded from between the cap and the tissue. When perfect contact has been secured at every point let the cap rest for twenty minutes, after which development may be proceeded with. To develop the carbon image take one of the enamelled trays, fill it half full of warm water, not hotter than 120° F., immerse the cap and allow it to soak until the pigment or color oozes out from beneath the tissue. Now gently lift one corner of the tissue, always handling it under the water, and when it all comes off throw it away. Take the cap in the right hand and lave it to-and-fro in the warm water until the image begins to appear. In a very short time, if the exposure has been correct, the excess of pigment or coloring matter will wash away and the portrait will reveal itself. When it has completely cleared and the print is seen to be satisfactory rinse it in cold

water and immerse it in a solution of common alum, 1 ounce, in 50 ounces of water previously dissolved. Allow the print to soak in this alum bath for three minutes, remove and wash in clear water for five minutes, and then stand the cap and its picture aside to dry on a piece of blotting paper.

When the picture is thoroughly dry attend to any spotting that may be required, coat it with albaline, drain well, and dry by the aid of gentle heat.

The gold cap and its picture are now complete and ready to be attached to the remainder of the watch case. If these directions are carefully followed by any one who has even a slight acquaintance with the carbon process, there should be no failures. The reader should be cautioned not to use chrome alum for the alum bath after development, as this hardens the gelatine too much and in time the portrait might split or crack and peel off. A 2 per cent. solution of common white alum is all that is necessary.

If the lid of the watch case is used instead of the cap, the surface is, of course, convex instead of concave. The method of attaching the carbon tissue is the same, only care and patient handling being required to get contact.

The albaline mentioned is sometimes called crystalline. It is a celluloid varnish, practically a solution of gun-cotton in amyl acetate thinned down with amyl alcohol. For the purpose mentioned it surpasses collodion or other varnishes.

A NEW METHOD OF WORKING GUM-BICHROMATE

[In line with the interest created in the gum-bichromate process by the expert demonstrations at the Philadelphia Convention, we will print from time to time such information as can be gathered on this subject. The following is a translation of a paper communicated by Lacroix Fils of Geneva.—EDS. W. P. M.]

AFTER having neglected the gum-bichromate process owing to the attractions of oil-pigment, I have returned to my first love. I have done this in spite of my admiration for the qualities of the oil process—a process of incomparable flexibility. But gum-bichromate also gives me very great satisfaction, and it has a peculiar richness and lends itself with great docility to a multitude of interesting combinations. The effects may be varied almost to an infinite degree by the employment of variously tinted papers or by superposing several printings. Indeed, the field of action is vast, and there is abundant opportunity for the skilful worker who adopts this marvellous printing process.

Having been truly fond of the gum method, while not abandoning the greasy inks, I have always been searching after new combinations of printing. Such work demands patience as well as skill, but what does some amount of trouble matter if the desired results are obtained? I have devoted myself in particular to the original effects got by the somewhat neglected method of employing colored papers, and the range of expression which it gives to the artist.

Without making any further claims, I have to communicate to all who are interested in the gum method my line of procedure for obtaining the whites on tinted supports. I do so in the hope that my experiences may be a

guide to others, and may enable them to obtain results more perfect than my own.

I will, therefore, try to indicate as clearly as possible my method of obtaining an impression in white on deep colored papers. It is necessary in the first place to use a *positive*, not the selected negative turned over. For this purpose it is simplest to employ thin gelatino-bromide paper, which is to be obtained specially for such uses. The positive on paper has the immense advantage of making it possible to copy at the back, and this is absolutely necessary if the best kind of image is to be obtained.

Once the support is chosen, it is very important that a thorough sizing should be given. For this purpose five grams of arrowroot should be dissolved in 200 c.c. of water (cold), and placed over a gentle fire until it reaches ebullition. Formol is added, to the amount of 3 c.c., in order to permit of the employment of the preparation during several days.

For the application to the paper a large hoghair brush is required, and the solution may be put on without fear of too much abundance, and also uniformly, and left to dry. For the mixture of gum and bichromate I proceed by ordinary methods, or according to the one indicated so fully by Demachy and Puyo in their excellent book entitled *Les Procédés d'Art en Photographie*, but instead of introducing a dark pigment I employ a light one—the sulphate of baryta. Unfortunately, it is impossible for me to indicate the quantity because this is a matter for experience and for the practised eye. The coating of this emulsion is applied on the paper, as in the case of the other colors, good care being taken to obtain a uniform thin layer.

After drying, the exposure to light is made under the turned-over positive. The exposure is very rapid. Development is carried out merely by floating the paper face downward either in cold or warm water, according as to whether the time of the printing has been exact or in excess. One does not wait to obtain the half-tones. The image takes a heavy aspect, because it is only the very transparent portions of the positive which are impressed in white. But with successive printings in deep colors, the half-tones are obtained, as well as the modelling. If after this first impression the whites appear yellow, it is a good plan to pass the image through a bath of bisulphite of soda, which eliminates the traces left by the bichromate.

After complete drying one procedes to a fresh sizing, as thorough as the first, with the preparation indicated above. If this is not done it becomes impossible to get out of the subsequent impressions the color which has been unacted upon by the light. Then, always after drying, one proceeds to the second coating of gum mixed with a deep pigment, copying this time with the *negative*. The development is practically as I have already indicated. It is permissible to take several superposed printings by marking as exactly as possible by the usual method, which is too well known for me to describe. The sizing between each operation must not be forgotten.

I am fully persuaded that my method of working may be greatly modified by the employment of other sizings, such as gelatine and albumin, and again by other white pigments. But with regard to the latter the sulphate of baryta, according to my experience, is the best for the purpose, because it does not combine with the bichromate, and renders it easy to take away the non-impressed colors in ulterior printings.

One may also simplify the operation that I have described by suppressing the positive, but I should point out that the effects obtained in that case are not so remarkable, although they by no means lose all their interest. Plainly it becomes a matter of applying with the brush on a sheet of tinted paper, which has been primitively sized, a coating of sulphate of baryta, mixed with the water and arrowroot already prepared for the purpose of the sizing. After drying, it should be sized again and after complete desiccation the emulsion of gum mixed with some deep color may be applied, and the copying take place as usual to the light under the negative.

I have had experience of the results with these two methods of printing. Frequently it happens that the white coating has a tendency to be scaly. The fault proceeds from excess of pigment or from insufficient sizing. If, on the contrary, the color is found to be insufficient in quantity, the coating offers more solidity and adheres more strongly to the support, but the image lacks in brilliancy. I am not yet at the end of my investigations with regard to the sizing, but I continue with some expectation my experiences in the use of albumin. I believe I may predict after my early attempts that once the proper quantity of this colloid has been found I shall be able to obtain extremely interesting effects.

PHOTOGRAPHING CHILDREN

THERE is no blinking the fact that the subject of these notes is not a popular one with most photographers. If we may judge by the walls of the exhibitions, children as models for the camera might be almost non-existent. But why this boycott of the youngsters? Why this neglect of one of the most interesting of photographic fields? I think I am not very wide of the mark when I put it down to a knowledge, probably born of experience, of the inadequate results that will reward the long-suffering photographer for the sacrifice of hours, perhaps days, in attempting to get good portraits of children. To put it baldly, he thinks the game is not worth the candle; but I can assure him his conclusion is wrong.

Well, we cannot adapt the youngsters to the camera—we would not if we could—so we must adapt the camera and ourselves to them, and when once we have realized this fact, and have set about putting it in practice in real earnest, we have taken the first step on the right road. This is a really very important point in taking children: We must not attempt to think out our picture beforehand. Any hint of posing, especially to boys, renders them conscious at once. We must let the children alone, but be ever alert to seize any pictures they may present to us.

Opinions differ, and so to avoid misunderstandings I propose to define what seems to me the important points to aim at in a child's portrait. It should, I think, be simple in treatment and surroundings, spontaneous, normal, and above all things unconscious, both in expression and pose. If the reader agrees with this definition as satisfactory, we can pass on to consider working methods. Some of the conditions, besides improving the results, are a help, for they free the photographer from many minor worries

leaving him ready to take his opportunities as they occur.

Almost any room with a reasonable sized window will do. The larger the window, and the less obstruction to the light outside, the quicker will be the exposures and the fewer plates are we likely to spoil through movement.

We agreed, then, that the child's portrait should be "simple in treatment and surroundings." A white or quite light background is necessary. We want no deep or heavy shadows or contrasts. They are not natural to childhood; besides which, they lengthen the exposure. If everything in the picture is kept light in tone—that is, the background, the child's clothes, and any accessories that may be necessary—and the flat arrangement of lighting adhered to, it will surprise many photographers how short an exposure is necessary, even to obtain a fully exposed negative. I have suggested that a light background, even quite white, gives very satisfactory results, and it should be broad, if possible reaching almost across the room, as it will give us more latitude in shifting our position and the child will not so easily get beyond it. A small background often spoils a chance; one may see a delightful effect, but if half of it is outside the background, we stop to shift the camera to get it all in, and usually our chance has vanished.

Any surroundings we may wish to introduce, such as a table, a stool, or toys, should all be light in color, as dark, possibly under-exposed, spots will quite spoil our light scheme. My own experience has led me to reduce accessories almost to the vanishing point; but no doubt with quite little children they are a help, for with a fish pond or a few bricks the small sitter will remain in one place for lengthy spells, perfectly content and absorbed. With bigger children better results are obtainable often if they are quite quietly chatted to by the photographer's helper (a most important person, who must now be discussed).

The second part of our definition—"spontaneous, normal, and, above all things, unconscious"—must be taken together. The last word is the important one, for if we secure unconsciousness we shall probably find that we have more than a suggestion of the spontaneous and the normal. All one person's energies must be devoted to seeing that the children are (at least, from their own point of view) living their ordinary life while they are in front of the lens. I find I have enough to do in unobtrusively manipulating the camera and quietly making exposures unnoticed; so this duty falls on another, and I am not overstating the case when I say that one's success or failure is dependent on the helper. The duties of this person are in an unostentatious way to amuse and, to a certain extent, control the child. The entertainment should never be of the fast and furious type. The more the youngster is induced to amuse himself the better. The greatest skill is shown in unobtrusively suggesting and supervising the direction in which the amusement should go.

"Just anybody" cannot fulfil the position of amuser. He, or preferably she, must be in sympathy with the photographer, and should intuitively know what to do and what to leave undone; how to get out of the way when an exposure is imminent without a word being said. The chief aim of the amuser is to keep the child normal, even to entire forgetfulness of the camera; and if this is accomplished, the photographer stands free to watch on the ground-glass the varying attitudes and expression of his sitter. With a plentiful supply of plate-loaded slides ready to hand, he can

choose or refuse the many different studies presented to him.

With quite young children it is advisable to make on the foreground (which should be composed of some white material, an ordinary sheet answering very well) a little home. This is done by placing a table or stool with some attractive toys on it. The youngster will quickly get to look on it as his own particular domain, and even if he takes excursions round the room, he will return as a matter of course, and each detour will bring him back with a new and probably delightful attitude.

Full-length portraits of these little people are usually much more satisfactory than attempts at head studies, for their character is seen as much in their bodies as their faces, and if only they are naturally protrayed, a picture that shows the whole of them is a far more faithful and conclusive record of a personality that is so rapidly changing.

I have left myself small space to deal with the important matter of clothes, which form a serious feature in our scheme. They should obviously never be dark, and, on the other hand, starched white clothes must be avoided. Trust not in nurses, neither should our faith be always put in mothers, unless they understand and sympathize with our aim at a delicate effect. The less of pronounced pattern we have the better. Soft yellow-white silk or flannel, or Holland colored outgrown garments, answer best. New or "best" clothes are a pitfall. They hide up the childish limbs and suggest stiffness and ceremony to the poor little wearer. Black or dark stockings should certainly be banned. So many children now run about all summer without shoes and stockings, and if they will only be content with the same lack of clothing on their legs and feet when they come to the photographer, many difficulties are at once solved.

As to the question of exposure and development, I have already said that with the fastest plates one-third of a second in an ordinarily well-lighted room is ample. This presupposes that the work is done somewhere near middle day, in reasonably fine weather, and with the lens working at *f*/8. It also takes for granted that a light, flat, shadowless scheme such as I have indicated is adopted.

Weak, slow development is, I believe, absolutely necessary. One part rodinal to fifty of water is suitable, but of course with such a weak solution development must be continued much longer than with normal strength.

A silent studio shutter, which I had almost forgotten to mention, must be classed among the necessities. With such an instrument the worker has nothing to do but to smartly yet lightly press the bulb, and with a little practice he will learn how to vary his exposure by pressure, from, roughly, under one-third up to one second or more if necessary. With regard to printing processes, each individual must choose for himself, according to the point of view from which he is working.

It is obvious that the man who takes up this particular work must sink a certain percentage of his personality and be content to pounce gratefully on fleeting attitudes and effects. My personal predilection is to go still farther in self-denying ordinance in the gradation of the light tones, and employ only those printing processes that will adequately render them.

With all its limitations, child photography can be a most enthralling pursuit. A true suggestion, be it ever so slight, of the fleeting moods of childhood will always be a treasure to many "grown ups," and will eventually gain value even in the eyes of the once small sitter.

HOME PORTRAITURE FOR THE PROFESSIONAL

WITH the rapidly increasing vogue of home portraiture the question of the future of the studio building arises. Will it become a relic of the past or be adapted to newer methods? Specializing on the subject a writer in a recent issue of *Photo Era* thinks that "Undoubtedly we will not do away with the business studio; but the artist-photographer is free to admit that the professional studio is not altogether conducive to true, pictorial treatment. The average studio—so unlike the home environment—must necessarily deprive the picture of much that is poetical, artistic and natural. The great expanse of glass and location of light openings are entirely unconventional, and, while this is necessary in commercializing photography, yet it is greatly at variance with conditions and light in which we live and move. Home portraiture, then, is something more than conventional studio lighting and posing. In fact, home portraiture is unconventional portraiture, differentiated from the conventional in that the latter, while it may possess great merit as a photograph, lacks that spark of life which the home atmosphere lends to the former—a living personality. And whereas the one, conforming to certain laws and rules of art, will be admired and forgotten, the other will long be cherished as being true to and characteristic of the individual. The photographer must show art training; for, although a photograph be taken in the home, it does not necessarily make of it a picture. The inadequate effects of the unskilled, which may have satisfied once, will meet scant approval of the cultured classes, whose exacting demands tax one's ingenuity to the utmost.

"Unquestionably it is more difficult from a technical standpoint to get a satisfactory picture in the home than in the studio, and the photographer is still confronted with that great question of what not to include in the picture. Indeed, it calls for high order of intelligence and taste of what is fitting. One cannot be too critical. Simplicity in this as in almost everything marks the *finished* result. On this account at-home portraiture is not likely to be overdone, and it offers exceptional opportunities to the initiated, for the public is willing to pay handsomely for made-at-home portraits with their air of refinement and artistic finish.

Studied 'Homey'-ness

"Reference has been made to conventional studio lighting and posing, and one will do well to bear this in mind, particularly as theatrical effects are only at home upon the stage. Simple posing, unstudied (in the ordinary sense), yet studied "homey" effects are what is wanted. The true artist hides the artifice. Home employment may be both natural and highly artistic. Call to mind the mother and babe—in arms, in the cradle, in the chair, or at luncheon, or at play; the growing child—arranging flowers, at studies, in doorway, or at the window; the young lady or gentleman—at the piano, at the table, before the fire; the adult members of the family—reading, at work, at desk, before bookcases, etc. It does not call for much imagination. Poses readily suggest themselves.

A Simple Rule of Lighting

"Considering the question of lighting, we should aim to have the rays so fall on the subject that the principal

part of the picture is in strongest light. This is about all, with the exception that strong reflected light may be required to balance the too concentrated direct light. It may be taken, in general, that the stronger the direct light—except in special cases—the stronger the reflected light required. The stronger the direct light, the deeper and sharper the shadows; and dense, dead shadows are not desirable, as a usual thing, in portraiture. Other than this, it will take care of itself, as the light, usually coming from a small source, will provide ample base to the picture and make for stability. One who is master of his light will have no great difficulty and can make as beautiful effects in the home as in the workshop; for be it known that this forms the basis of a picture. In the absence of light we have shadow. More of it, means just that much less shadow. The more intense the light, the deeper the shadow. It emphasizes, while shadow subdues. The one counterbalances the other. The one should predominate; and that part of the picture which is most prominent, or of principal interest, should be in strongest light. Light travels in straight lines. It is obvious, then, if proper distribution over the subject or individual is not obtained, it is due to either of the following causes: the subject was too close to the source of light and is without gradations—a 'soot and whitewash' effect; too far from the source of light and is without contrast—a dead, spiritless effect; too far back of the light and is without relief—a flat, washed-out effect; too far in front of the light and is without roundness—a silhouette effect. If the source of the light is too high, the cast-shadows run lengthwise of the face; if too low, the shadows fall across the face. In either case the result is a disfigurement. The cardinal principles making for a pleasing picture, as well as a portrait, are contrast, relief, gradations, and roundness.

Portraits, not Studies

"Screens are hardly necessary; for if the operator is not to tire the subject, exposure must be very brief, and hence all light entering the room is necessary. Of course, if the windows extend to the floor, or only bust-portraits are wanted, then screening the lower portion of the windows is desirable. In bust-portraiture the light should fall on the subject at an angle of 45 degrees, if possible, as this angle of light falling from the front, top, and side brings out the greatest degree of modelling. The head should represent a ball in roundness, and, as we are representing a round object on a flat surface, it is necessary that we obtain, by light and shade, perfect roundness and gradations. The greater the number of tones, which blend the extreme high-lights on the one hand and the absolute shadows on the other, the more pleasing the effect. It is true that very pretty effects may be obtained from all side-light, front-light, or even back-light, if not too strong; but such are more properly 'studies,' and not portraits of individuals. Aside from bust, or head and shoulder portraits, so-called studio- or portrait-lightings should not be striven for, else the home effect is lacking, and the portrait might as well have been the product of the professional studio. Since head and shoulder portraits are demanded, however, in the home, a brief description of the 'Line,' 'Rembrandt' (three-quarter and profile), 'Portrait or Painters' lighting, and full shadow effects, may not be amiss. In brief, the rules are these: The subject should be placed at right angles to the

source of light, and distant from it twice its height. It should be back of it, or to one side, the width of the light. That is to say, assuming that the light is five feet high (after screening off the lower portion), and then assuming that the width of the light is four feet, the subject would then be four feet back of it and on a line ten feet distant from the source of the light and at right angles to it. The lower portion of the light should be screened off on a line with the height of the subject's head, or until the light falls from above at an angle of 45 degrees. The reflector should be placed at an angle of 45 degrees, both facing the light and the subject, on a direct line, and to the front of the shadow side of the subject. The light, then being caught by the reflector, bounds off at right angles and illuminates the shadows without throwing cross lights and destroying modelling. The reflector should be white oilcloth, and at least the size of the light opening (twice this size would be better). As to distance in front of subject, this depends upon the strength of the direct light, the complexion and color of draperies. If the draperies are dark in tone or nonactinic, the reflected light will need to be greater than if the general effect were light. A dark, ruddy, or bronzed complexion also requires stronger reflected light than a light complexion. The rule should be to place the reflector at such a distance that flesh-tones can easily be seen in the deepest shadows of the face, but not so close that the general contours of the shadows cast by the features of the face are destroyed. For the average subject—the reflector being the size of the light opening—the distance will be about the width of the light. That would be—basing our calculations on the figures as given—about four feet.

Getting a Good Lighting

"The light arranged as herein described, reflector and subject properly placed, the procedure is as follows: For a portrait or painter's lighting, direct the attention of the subject toward the source of the light until the shadow cast by the nose is seen to run diagonally across the shadow side of the face, the apex terminating at, but not quite joining, the outer corner of the mouth. The light should be 'V' shape. The light area is that region covered by the palpebrarum, zygomaticus, and labial muscles. Once the subject is properly placed, it should not be moved excepting for 'line' and full-shadow, or 'cameo' lightings. The camera is placed nearest to the source of light, pointing away from it toward the light side of the face. Its nearness to the light opening and direction depends upon whether a profile, three-quarter, or full view of the face is wanted.

Secure Rembrandt, Line, or Cameo Lightings

"For Rembrandt effects of lighting, move the camera to the shadow side of the subject, pointing into the light, more or less; but the lens should be protected from the glare of light which comes from the window, else the brilliancy of the image will be impaired and the negative present a fogged appearance. The placement of the camera here also depends upon whether a profile or three-quarter view of the face is desired. The so-called line-lighting is a modification of the Rembrandt lighting and consists of a profile of the face, in shadow, and just a fine line of light outlining the front of the face. To obtain this effect, the face is turned away from the source of the light until all light is off the

shadow side. The camera in this case is placed pointing directly into the light opening and at right angles to it. For the all shadow effects or cameo lightings, the camera is placed in front of the light-opening, pointing away from it and at right angles, the face being stationed as before for the line lighting. These effects are called shadow lightings, but, as a matter of fact, it is the light side of the face which is taken, relief being only on the prominences of the face, hence the term *cameo* or *cameo-effect*.

"It is obvious that, working by a small source of light, the lens must, necessarily, be of short focus to allow of proper placement of the camera. This need not offer serious difficulty, however, if one will look well to the height of the camera. The rule should be: The shorter the focus of the lens the more the camera should be elevated.

But Get a Portrait

"Whenever possible, the at-home photographer should confine himself to making three-quarter or full length views of the person, working across the light, as for full shadow lightings, or the subject facing into the light somewhat, according to the view wanted. Better general illumination will be obtained in this way, and, if the subject be moved back from a line at right angles to the source of the light, either way, effects of light may be had which closely resemble those herein described for bust-portraits. Avoid 'freak' lightings if you would not be considered eccentric. There are certain laws accepted by conservative portraitists which must be observed. They are that the element of likeness is paramount, and that contrast, relief, gradations, and roundness cannot be sacrificed to the worker's peculiar ideas without materially affecting the sensible treatment of the photograph as a picture portrait.

Helps in Exposure

"Next to a proper distribution of light, exposure seems to offer great obstacles to the novice in at-home portraiture. This may be readily mastered, but by a careful study of the *actinic quality of the light* as employed in the Steadman method of exposure, which consists, essentially, in exposing any kind of tinting medium, as P.O.P., in the shadow cast by the object, to obtain a least visible tint. The Watkins system of exposure-meters is based on the same principle, and is equally recommended; or one may make use of the exposure-table for interiors in Burroughs Wellcome & Co.'s 'The "Welcome" Photographic Exposure-Record.' This arrangement is based on the largest opening of an iris diaphragm, which may be used in stopping down the lens, so that detail in the darkest part of the object, in which detail is desired, can be faintly (but distinctly) seen, when the eyes are directly opposite that portion, viewing the image on the ground-glass. The lens is first focussed in the usual way, *at full aperture*, and, after stopping down and noting shadow detail—as explained above —reference is made to a table, which gives the exposure required for any desired stop, in taking the picture. Suppose the lens works normally at *f*/5.6, or U.S.2, and it is desired that the lens be used fully open, or at *f*/5.6, in taking the picture. It is found that detail may be faintly, but distinctly, seen with the lens when stopped down to *f*/8. Fast plates are to be used. The exposure in this case would then be two minutes. If the lens must be stopped down to *f*/11, however, in order to see just faintly

shadow detail—other things being as before—the exposure would be but one minute; at *f*/16, only thirty seconds' exposure would be required; at *f*/22, fifteen seconds; *f*/32, seven and one-half seconds; *f*/45, four seconds, and *f*/64, two seconds, using in all these cases *f*/5.6, or U.S.2. This method is very practical and takes into consideration light intensity and all relating thereto, diaphragm and speed of plate. The old adage, 'expose for the shadows, and the high lights will take care of themselves,' is also amply provided for. As this is purely a mathematical problem, one is, perhaps, less likely to err than where judgment is required for a standard tint.

"Exposure is of vital importance in at-home portraiture, and, if less than a full exposure is given, the resultant negative will be harsh in the high lights and devoid of shadow detail. There is hope of a negative which may be over exposed; but no amount of chemical manipulation can place imagery there, which was not provided for in exposure. The effect of the light is definite, and determines the amount of detail and density that may be developed in a negative.

A Development Maxim

"Development of at-home portraits may be by the brush method or by tank. This latter is one which gives pleasing results and will appeal to the busy practitioner; but, whatever method is employed, care should be taken not to over-develop. A negative, just under the normal density, will produce the most satisfactory prints. The rule should be, 'Develop for the high lights and let the shadows take care of themselves.'

"Development in its entirety is almost an inexhaustible subject, and is not within the scope of this article. A few rules must suffice. *The conditions which give contrast* are the slow plate, small diaphragm, harsh lighting, under-exposure, cold developer, strong developer, minimum quantity of sulphite, addition of restrainer, over-development and slow drying. The factors which make for softness are the fast plate (generally speaking), large diaphragm, flat lighting, dirty lens, diffused light, light entering camera other than that forming the image, strong light shining directly into the lens, over-exposure, warm developer, weak developer, maximum amount of sulphite, excess of carbonate, under-development, and fogged or poor plates. A negative is merely a stencil or screen whereby the dense parts obstruct or keep out the passage of light during printing of the picture, and the transparent parts allow the light to pass through with little or no hindrance. The question of negative-making is, after all, merely a question of contrasts of blacks and whites. Manipulation should be, therefore, in direct proportion as the negative is too flat, lacking contrast or too contrasted, lacking softness; and the art of development is, essentially, a practical understanding of these principles.

"At-home portraiture is a field barely cultivated as yet, and promises rich harvests to those who will give it the necessary attention. The signs of the times point to a great revival in portraiture along this line. The change of the studio from the business districts to the more quiet residential sections points the way, and getting close to the home and the home life of the people spells success for the wide awake portraitists."

PHOTOGRAPHIC CHEMICALS AND HOW TO KEEP THEM (SOLIDS AND SOLUTIONS)

BY CHAPMAN JONES

THE storing of substances to the best advantage is not always a simple matter. The chief of the possibilities of deterioration that have to be guarded against in each case, according to circumstances, are the action of the oxygen, the carbonic acid, and the moisture of the air, the action of the material of the vessel that contains the substance, and the volatilization or decomposition of the substance. In the following suggestions the needs of photographers only are considered.

The liquid acids, sulphuric, hydrochloric, nitric, and acetic, should be kept in glass-stoppered bottles, and hydrochloric and nitric acids should not be exposed unduly to light, for if they are they will suffer slight decomposition.

When considerably diluted, as the hydrochloric acid used for washing platinum prints, and acetic acid as used to remove the ferrous oxalate solution from bromide prints, when that developer is used, these acids may be quite well kept in corked bottles.

The solid acids, citric and tartaric, may be kept almost anyhow; it is only a matter of keeping them clean. Pill boxes may be used if preferred. Solutions of them should not be stocked for more than a few days, as they are liable to get mouldy.

Ammonia must be kept in a stoppered bottle, and it is well to dilute it as much as convenient as soon as obtained, as the more dilute ammonia loses its gas more slowly than the stronger. It is well to use it from a small bottle, opening the stock bottle only to fill the other, that the loss of ammonia may be lessened.

Caustic potash and soda when solid may be stored in almost any vessel that excludes air, corked or stoppered bottles, etc.; but if the vessel is to be often opened, bottles with india-rubber stoppers are convenient. As they readily absorb moisture and carbonic acid from the air, the perfect closing of the vessel is most important; and glass stoppers are not desirable, because the stopper is almost sure to become firmly fixed if a few specks get between it and the neck of the bottle.

Solutions of caustic potash and soda should be kept in bottles with india-rubber stoppers, as they corrode corks and fix glass stoppers, and deteriorate rapidly if not kept from the air. The glass is corroded—old solutions are therefore not reliable.

Potassium, sodium, and ammonium carbonates must be kept from the air, otherwise the first will take up water, crystals of sodium carbonate will lose water, and ammonium carbonate will decompose. Well-corked bottles will suffice.

Solutions of potassium and sodium carbonate should be kept in bottles with india-rubber stoppers, as corks would be liable to be too much softened by them, and glass stoppers would be liable to get fixed. These solutions attack the glass, and a flakey sediment may be produced, which must be carefully filtered off.

Solutions of ammonium carbonate should be kept in glass-stoppered bottles, and care should be taken that the opaque coating of the lumps is scraped off, and only the translucent part taken for preparing the solution. Hot water should not be used.

Tribasic sodium phosphate it is well to treat as is advised for caustic potash and soda.

Pyrogallic acid, metol, eikonogen, amidol, hydroquinine, ortol, and other solid developing agents, may well be kept in corked bottles as they are purchased.

Prepared developing solutions, if concentrated, should be preserved in bottles closed with india-rubber stoppers. If diluted sufficiently for use, common corks may be used, especially if the solution is not to be preserved very long, and corks may serve well in other cases too, but india-rubber stoppers are more certain. Glass stoppers are liable to stick if they remain long unmoved. If the developer is kept in two solutions, it is the solution that contains the alkali that will be liable to fix a glass stopper.

"Hypo," either when solid or in solution, needs no very special care. A "Winchester quart" is an excellent bottle for the solution, and it should always be prepared at least a day before it is used—it will keep good for months.

Sodium sulphite solid may be kept in well-closed bottles of any kind. Bottles containing its solution should be closed with india-rubber stoppers, and will then keep in excellent condition for many months.

Sodium and potassium sulphides must be very carefully kept from the air. A stock solution should be kept in a bottle with an india-rubber stopper. A dilute solution should not be preserved at all.

Ammonium sulphide keeps well in glass-stoppered bottles; corks should not be used.

Silver, platinum, and gold salts, and it is well to add uranium salts too, should always be preserved in glass-stoppered bottles whether in solid form or in solution, and it is well to use distilled water in preparing the solutions.

Ferric chloride, potassium cyanide, potassium iodide, cobalt salts, and ammonium sulphocyanide, should be preserved in well-closed bottles. Ferric chloride in solution should be kept in a glass-stoppered bottle. Potassium cyanide should not be kept in solution for more than a few days, as it is liable to decompose.

Potassium ferricyanide, potassium ferric oxalate, potassium permanganate, ammonio-citrate of iron, and the persulphates, whether solid or in solution, should be kept in glass-stoppered bottles. These and ferric chloride should not be allowed to come into contact with organic substances like cork, and it is well not to expose these substances to a strong light. Potassium ferric oxalate should be kept in the dark.

Potassium oxalate, potassium bichromate, potassium bromide, copper sulphate, lead acetate, ferrous sulphate, mercuric chloride, and alum, may be kept almost anyhow; but ferrous sulphate is best dissolved when required, as it will not keep well in solution. It should be dissolved in cold water, either by the aid of a mortar and pestle, or by covering the crystals with water and filtering when the solution is saturated.

Hard water should generally be avoided if possible, but especially in the case of oxalates and lead and silver salts. Expensive compounds, such as those of gold and platinum, should be dissolved in distilled water, in order to reduce the risk of the solution deteriorating. In general, all solutions should be clear. If a sediment has formed, the clear solution may perhaps be decanted off, or if necessary it should be filtered.

STRIPPING NEGATIVES

BY PROFESSOR NAMIAS

In order to remove the gelatine film of a negative from the glass which supports it, the usual practice is to harden the film with formaline, and then to strip it by means of hydrofluoric acid. The plan is not without its drawbacks. In the first place we have to use formaline, which has a very irritating odor, and gives off injurious vapor, hurtful especially to the eyes. The action of the formaline also is not sufficient in all cases to prevent a partial expansion of the film when it is placed in the acid bath to strip. Moreover, hydrofluoric acid is a compound which has to be kept and handled with very special precautions. The method described below is cheaper, more certain and reliable in its action, and involves the use of no substance that is injurious to health. I propose in this article to give a detailed description of the method, and to point out certain things which must be attended to if the process is to be worked successfully.

The finest hardening agent—basic chrome alum. The operation depends upon the employment of basic chrome alum to harden the gelatine. This substance has a much greater hardening action than ordinary chrome alum, as I pointed out in 1902. The basic chrome alum is made by adding to a 20 per cent. boiling solution of ordinary chrome alum, strong ammonia until a greenish precipitate is permanently formed. This gives us a solution of the basic chrome alum, which in half an hour will harden a gelatine film so effectively that it will stand treatment with boiling water without expanding.

A hint useful when hardening negatives. Before treating it with this solution, it is most important to soak the negative thoroughly in water—for this reason. If a dry negative is placed in such a liquid, the surface of the gelatine is hardened so quickly that the fluid is unable to reach that part of the film which is next the glass, and so when the film is ultimately stripped the unhardened undersurface will expand. On the other hand, if the plate has been soaked in water first, the chrome alum has time to go right through the film before its outer surface has hardened and become insoluble. As a matter of fact, this is the case with all hardening agents, such as ordinary alum, formaline, and so on, and whichever is used it will be found that the action is much more powerful and complete if the plate is first allowed to soak in water and then placed in the hardening bath. While, according to MM. Lumière and Seyewetz, all the salts of chromium, especially in a basic condition, have an identical action in rendering gelatine insoluble, I have only succeeded in the manner described by using basic chrome alum. It is true that all the chromium salts precipitate gelatine, but this effect is undone by acids, which is not the case with basic chrome alum. Chloride, acetate, and tartrate of chromium, rendered basic. have all been tried, but with none of these salts is it possible to strip the film without considerable expansion; while with basic chrome alum, suitably prepared and allowed to act for a sufficient time, the film will be found to keep its original size perfectly.

Stripping films with sodium fluoride. For several years I have made experiments as to the possibility of substituting an alkaline fluoride (sodium or

potassium fluoride, not ammonium) for the hydrofluoric acid for stripping.

A 5 per cent. solution of an alkaline fluoride may be kept indefinitely in a glass bottle, and is quite innocuous. For use a little of the solution is poured into a dish of celluloid, papier-maché, or wood, and a little dilute (1 or 2 per cent.) sulphuric or hydrochloric acid is added. The film soon begins to strip. This stripping is caused by the formation between the gelatine and the glass of a gas, silicon fluoride.

There is no other method which will be found so efficacious as this. The use of a solution of a carbonate or of a bicarbonate, followed by an acid bath, has been recommended, but it will be clear that in this case the gas is given off, not between the glass and the film, by the stripping solution acting on the glass itself, but in the body of the film by the acid and carbonate solutions in which it is soaked coming in contact with each other. The actual stripping effect of such a treatment is very slight, and its efficacy is not very apparent. If the hardening of the film is very great, it can often be detached without any special stripping solution by merely loosening it with the fingers after putting the plate in tepid water. This method, if simple, is not very sure, for one often finds patches where the adhesion is much stronger, and there is consequently a risk of damaging the thin, tender gelatine skin.

A simple method of preparing basic chrome alum. A simplification of the usual method of preparing a solution basic chrome alum is to add granulated zinc to the chrome alum solution. After they have been allowed to react for a few days, the excess of sulphuric acid in the chrome alum, and also a part of that which is combined with the chromium, is taken up by the zinc, being partly changed into soluble zinc sulphate, the presence of which in the solution is not material. The solution should be kept in contact with the zinc, this being left in the bottle and the liquid poured back into it after use.

Enlarging by means of stripping. The enlargement of a photographic image by a simple expansion of the film is an interesting process. All methods for doing so hitherto published involve the use of an acid, generally hydrochloric, but the action of acids upon gelatine is a very injurious one; the gelatine softens and becomes easily breakable, the film loses its shape, and it is very difficult to obtain a really good result. An Italian amateur, Prof. Colombo, recently pointed out to me a very simple means of enlarging by expansion of the film, which in my hands answered admirably at the first attempt, and which I think it would be useful to make known. The negative, which must not have been alumed previously, is immersed for ten minutes in a cold saturated solution of sodium carbonate. It is then taken out and allowed to dry without washing. It is then put back into the same solution, and after a few minutes the film can be raised, and, with care, removed entirely from the glass. This stripping is not generally at all difficult, although it is not so easy as when hydrofluoric acid or an acidified fluoride is employed. The film will be found hardly to expand at all in the carbonate solution, this action only taking place when it is transferred to the water. The expansion then is very considerable, and after ten minutes' soaking it diminishes slightly and becomes uniform. A clean piece of glass is then put in the dish, and raised, bearing the film upon it, the fingers being used to expel any bubbles of air that may be between the film and the

glass, and to press the film down into contact. It will be found to adhere perfectly without any gelatinous or gummy substratum, and the negative can be intensified with mercury—this is generally necessary in consequence of the weakening of the image by the expansion—without any fear of it coming off the glass.

Reversing without enlarging. This method of enlarging, I am able to say from my own experience, is perfectly practicable, yielding an increased size from quarter-plate to, approximately, five by four. The sodium carbonate method can also be used when it is desired to strip and reverse a negative without enlargement; all that is necessary in such a case being to immerse the stripped film in 95 per cent. alcohol. when it will shrink to its original size. But when stripping and reversing only are to be performed, the method first described with basic chrome alum and sodium fluoride is preferable.

PICTURES WHICH TELL A STORY

MANY photographers have, at one time or another, made a mild ephemeral reputation by the production of some clever or catchy genre picture. Several firms make a specialty of turning out such pictures, and a number of photographers in large cities earn a more or less precarious livelihood by their production. The large firms sell their pictures through recognized publishers, who cover the country; the smaller men are content with a local sale, and either peddle their pictures direct to the stores or have an agent who does so. The pictures which sell widely are usually pictures with some cheap sentiment—pretty women and children in pretty dresses, playing games or listening to music. Brightly tinted with aniline colors and framed, they form attractive wall pictures, and, I believe, are in much favor as wedding presents.

There is no doubt about it—people like pretty pictures and are ready to buy them. And in spite of the myriad pictures so easily obtainable—pictures ranging from copies of "old masters" down to the color pages of a Sunday newspaper—there is always a demand for more. Is it wise for a photographer to attempt their production? That depends upon circumstances. If it is that the photographer has a feeling for such work he will probably do so. And the man who has the necessary artistic suggestion will have no difficulty in finding his subjects. Pictures by Knaffl Bros., or Davis & Eickemeyer, for example—with which our readers are familiar—contain evidence of the personality of the photographer. Pictures from their cameras would be recognized by every reader, even if the line of acknowledgment were omitted. In the case of a man who has no special inclination toward genre work the advantage of it is less obvious. But even here it may have its uses. On the theory—a wholesome theory—that the small man should be an all-round man—genre work is good. In some hands it may develop into one of the paying specialties—those specialties of which at least one should be on hand all the time. A succession of specialties keeps the public alive and keeps the photographer alive. And a good bit of genre work has its value as an advertising attraction. Take what is perhaps the simplest of all

genre pictures. The photographer who first improved on the undressed baby by bringing out the bath-tub and seating baby in it—on a scrap of warm rug—with a lump of soap as a side accessory, made money out of his idea. It didn't cost him a cent, and was just as simple as propping the child on a skin rug, and a certain proportion of mammas thought the idea cute. The bath-tub baby is not the only "studio" genre picture. Afternoon tea for a lady, an interesting book or newspaper for a man; or the child, not watching but playing with the pretty bird or the box of bricks, are equally simple. There are enough of ideas all ready to be thought out.

NEW BOOKS

The Raphael Book. An account of the Life of Raphael Santi of Urbino and his Place in the Development of Art. Together with a description of His Paintings and Frescos. By FRANK ROY FRAPRIE. Illustrated with 54 reproductions in color and duogravure of Raphael's most characteristic works. 300 pages and list of pictures painted or attributed to the artist. Price, $2.50, *net.* Boston: L. C. Page.

This is a companion book to Sadakichi Hartmann's *The Whistler Book*—books which should be thoroughly well known to every portrait photographer. Mr. Fraprie had an agreeable task imposed when he was commissioned to compile a life of Raphael, than whom there is not a more lovable character in the history of art, and we congratulate him on the success of his undertaking. From the innumerable books an Raphael Mr. Fraprie has made a readable and helpful account of the great master and his place in art. A life and history that should be familiar to anyone making the slightest pretense to a knowledge of art or picture making in any form. Some of the greatest paintings extant are from the hand of the great Raphael, and photographers especially are fortunate in having a complete and competent account of his life and works written by one who is a photographer by training and profession. We urge every photographer to add this book to his library, to read and re-read for his greater pleasure and profit. We have enjoyed *The Raphael Book* more than any book we have read in a long time.

Photograms of the Year 1912.

Photograms of the Year has, for the last seventeen years, been hailed as the pictorial photographers' special annual. This year's volume marks a new departure and is the first of a new series, indicating in many ways the great advances made in pictorial photography as an art. Mr. F. J. Mortimer, who has succeeded the late H. Snowden Ward as editor, has produced a very fine annual, more than twice the usual size. The illustrations, measuring 8½ x 11, are splendid examples of reproduction work. The leading camera work of the world is represented, and apart from the great interest of the *Annual* to photographers generally the book forms a notable volume of fine pictures that all art lovers should see.

The literary contributions include Reviews of Pictorial Photography in France, Germany, Spain, Holland, Italy and this country, the latter by F. R. Fraprie (and is reprinted else-

where in this issue), Among the pictures reproduced we notice pictures by J. H. Garo, A. W. Hammond, Gertrude Kasebier, Sherril Schell, MacDonald, Clarence White, and Rudolph Eickemeyer.

Photograms of the Year is a book that every photographer who takes an interest in pictorial work should secure, and the hundred pages of full-page illustrations, many of which take the form of specially mounted insets, are all worth the attention of every lover of good pictures. Notwithstanding the great increase in size the price of the volume remains the same as the smaller editions previously. The price is, paper covers, $1.25, postpaid; cloth binding, $1.75, postpaid. The American agents are Tennant and Ward, New York, from whom copies can be obtained.

The Grand Opera Singers of Today. Being an account of the Leading Operatic Stars who have Sung during Recent Years; together with a Sketch of the Chief Operatic Enterprises. By HENRY C. LAHEE. 451 pages, illustrated with 48 full-page duogravures. Price, $2.50. Boston: L. C. Page & Company.

In the nature of things grand opera is to most of us a rare and occasional treat, something to remember and reminisce about. Opera stars are separate beings from ordinary mortals and move in orbits of their own. They earn fabulous salaries and their everyday affairs are more or less public property. Some of them are public favorites and held in affectionate regard by innumerable people the country over. In the book before us Mr. Lahee tells the interesting facts of all the great singers now on the opera stage and we get a more definite idea of the great amount of hard work and constant training necessary to make names like Melba, Farrar, Caruso, Bonci become household words. Many anecdotes are told and the book is very readable and enjoyable from cover to cover.

Association Record, 1912. Being the Official Record of the Thirty-second Annual Convention of the Photographers' Association of America, held in Philadelphia, July 22 to 27, 1912.

The *Record*, is without doubt the finest annual the Association has yet issued, and we congratulate Juan C. Abel, who is responsible for its production. Design, paper, printing, and arrangement are all excellent. The only things open to criticism were beyond the editor's control. We refer to the selection of the pictures for reproduction and the general contents of the book. Members of a body made up largely of portrait-photographers, would, we think, be more interested in reproductions of real portraiture than the fads and fancies of prominent photographers. Of the ten pictures selected for reproduction less than three can he put into the strictly portrait class. A careful reading of the contents of the book leaves the reader wondering why so much artistry, fine paper, and printing. We are afraid the title is somewhat misleading; the *Record* is not a verbatim report of the proceedings of the convention, nor does it give even a general report of the proceedings of the convention. No mention is made of the lectures by Frank Raymond Jewell or Alfred Stieglitz, nor do we find any mention of the gum-printing demonstrations, and the *Record* passes from Tuesday to Thursday without a hint that the Association spent Wednesday at Atlantic City as a body.

TRADE NOTES

THE G. Cramer Dry Plate Co., of St. Louis, Mo., has just issued a very complete and helpful manual for *x*-ray workers of which we cannot do better than quote the foreword. "This little manual is dedicated to those who will appreciate it. The novice, who is appalled at an exhaustive treatise, may find comfort in these short and simple annals. Even the veteran may be reminded of things he has forgotten. The contents include: Some fundamental facts about *x*-ray apparatus; some advice upon radiographic technique; some instructions in the handling, care, and development of *x*-ray plates, and some hints upon avoiding common troubles." The book is illustrated with numerous half-tone cuts and working diagrams. Copies can be had from the Cramer Dry Plate Company on application.

We are advised that the United States District Court has decided that the Ilex Shutter does not infringe any patents held by the Wollensak Optical Company and has dismissed, with costs, the suit brought by the latter to restrain the Ilex Optical Company from manufacturing the shutter.

MOST photographers have gotten away from the old stereotyped idea of making enlargements to fit certain sized stock frames such as were invariably sold with the crayon portrait, and as a consequence, the enlargement of today is not so readily recognized. In fact, since the introduction of Artura Carbon Black, the photographer has been able to make enlargements that could not be distinguished from large contact prints, and the new Buff Stock Carbon Black Artura offers still greater opportunities for these high-grade enlargements. If you have never used Artura Carbon Black for enlarging, order a dozen of the new Buff Stock from your dealer.

DARK days at holiday time were once the bugaboo of the photographer, but many things have helped to brighten them of late years, chief of which is the plate of great speed, the Seed Gilt Edge 30. The remarkable thing about this plate is the fact that while extremely fast, it retains those qualities which have made other brands of Seed Plates so very popular—fine-grained emulsion and a long scale of gradation. You will save many negatives by using Seed Gilt Edge 30 during the short days of winter.

ONE of the most complete outfits ever placed on the market by a manufacturer of professional photographic supplies is the Home Portrait Outfit and Camera, recently announced by the Eastman Kodak Company. The two carrying cases of this compact outfit contain everything necessary for the photographer to step into the home of his customer and make sittings. The separate parts of this outfit have been listed at very reasonable prices, and their compactness, simple construction and general usefulness will appeal to those photographers who are not fully equipped for home portrait work.

FEW photographers realize the rapid advances made in tele-photography in the last few years. The new Ross "Telecentric" Lens made by the well-known optical house of Ross Ltd., London. Geo. Murphy, Inc., New York, American agents, has produced a telephoto lens that is ideal for sporting events and very suitable for portraiture. The "Telecentric" gives an image about twice as large as that given by an ordinary lens requiring the same bellows extension. Pictures of objects that from circumstances or of their nature, children for instance, cannot be too closely approached to secure the desired size of image, may be satisfactorily obtained by using the Ross "Telecentric." These pictures will have critical definition secured with the shortened exposure afforded by the large full aperture of this lens. Detailed circulars describing the "Telecentric" and its uses can be obtained from Geo. Murphy, Inc., 57 E. 9th Street, New York.

IN the rush of getting out the Christmas orders every minute saved is of considerable value. The Ingento Tablet Chemicals offer some short cuts to the rapid production of accurate, fresh, and active developers. Add your tablet to the given amount of water and then go ahead. No time is lost getting out your scales and figuring out correct proportions. Mistakes are eliminated, your print-producing capacity is materially increased, and prints are what your customers clamor for.

WHEN Peter Cooper-Hewitt invented the mercury vapor lamp some few years ago, the practice of photography was put on a new and enlarged basis, it was no longer dependent upon daylight and the photographer was relieved of the fear of dark, dull days and given the means of making photographs during any hour of the twenty-four. The Cooper-Hewitt Lamp has been developed until there is now a lamp suitable for every photographic purpose, negative making, printing, enlarging or the reception-room. The Cooper-Hewitt Quartz Lamp shown at the Philadelphia Convention and seen in actual use at the Goldensky Studio by many photographers, impressed all who saw it by its manifest adaptability to studio lighting conditions. The fact that it has been installed in some of the leading studios guarantees that it has some unusual qualities. It is impossible to give a technical description of the Cooper-Hewitt Lamps in the space at our command, but it will pay every photographer to write the Cooper-Hewitt Electric Company, Grand Street, Hoboken, N. J., and ask for their P. B. Bulletin.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK

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EDITORS' TABLE

WE regret to record the death, which took place on October 29, of Henry D. Marks, of the well-known firm of Marks & Fuller, of Rochester, N. Y. Mr. Marks entered the photographic supply business as far back as 1852, and had been established on State Street, Rochester, for over fifty years. Born in 1834, he was the oldest photographic stock dealer in the country. He took an active part in his business until a few months ago, when the illness which terminated in his death caused him to withdraw after sixty years' service.

BY the gift of an alumnus, whose name is to remain secret for a time, Syracuse will soon have what will be perhaps the finest course in photography in the country added to its curriculum within a short time. A two-year course, with the possibility of a more extended one later, will be in charge of an authority in this work, whose name has not yet been announced, but who is a member of the Royal Photographic Society of England and the American Chemical Society. It is intended to follow closely the work of the best schools in London, Berlin, Vienna, and Munich, such as no other school in this country now attempts. Ample facilities for research work and photo-chemical investigation will be provided. The course will be housed in the Fine Arts College until the course becomes enlarged so as to require a special building of its own.

IN our last issue we printed a formula for a solution for cleaning lenses which called for the use of three drops of nitric acid. Needless to say, this is a corrosive acid, and while safe to use in the proportion given, care must be taken to see that not more than the three drops called for are used. A safe plan would be to leave it out altogether.

THE South London Photographic Society, announces that it will hold its twenty-fifth annual exhibition at the South London Art Gallery, March 1 to 25, 1913, and invites entries from this country.

There are international open classes for pictorial photography, autochromes (sets of four) and lantern slides (sets of four). Two silver and six bronze medals will be awarded in the above classes, at the discretion of the judge. Entry forms and further particulars will be gladly supplied by Horace Wright, 180 Friern Road, East Dulwich, London S.E., England.

FROM the Jamieson Studio, Pittsburg, Pa., we have received an attractively printed Catalogue of Miniatures by Annie M. Fenderson and Portraits and Studies by Women of the Camera Craft, the latter including every prominent worker in the country. This combining of the exhibition of brush and camera work should be encouraged and is bound to be more helpful to both than a single exhibition of either.

ANOTHER interesting catalogue is one received from the Strauss Studio, St. Louis, which is holding during the month of November an international exhibition of children's pictures, to which the children of St. Louis and vicinity received a special invitation gotten up in the usual Strauss manner, which is to say original and attractive.

THE *Evansville Courier* gives a detailed account of the new studio opened by R. Morris Williams, of Evansville, Ind.:

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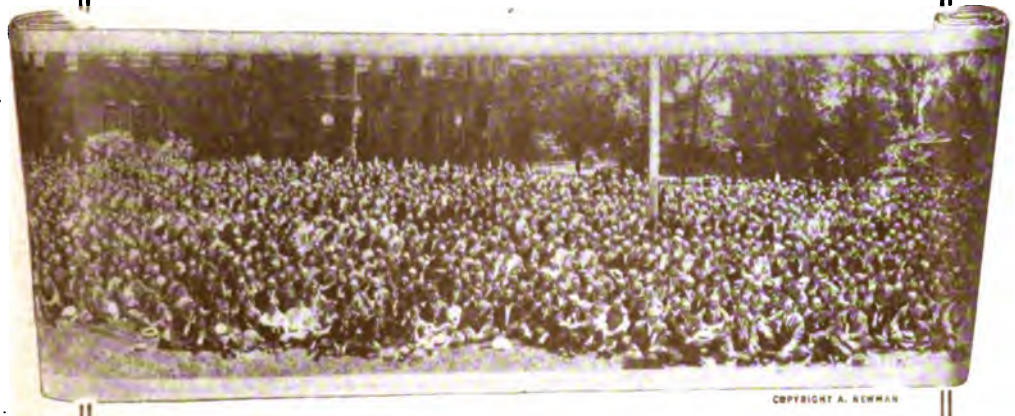

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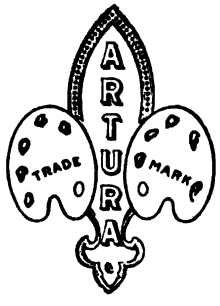

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DECEMBER, 1912

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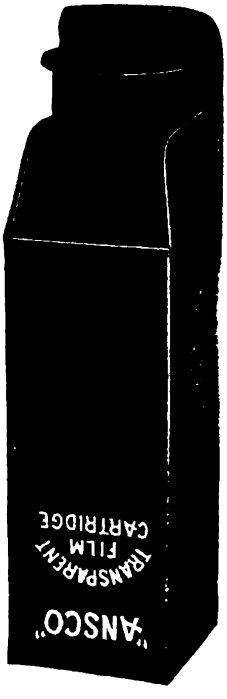

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PHOTOGRAMS
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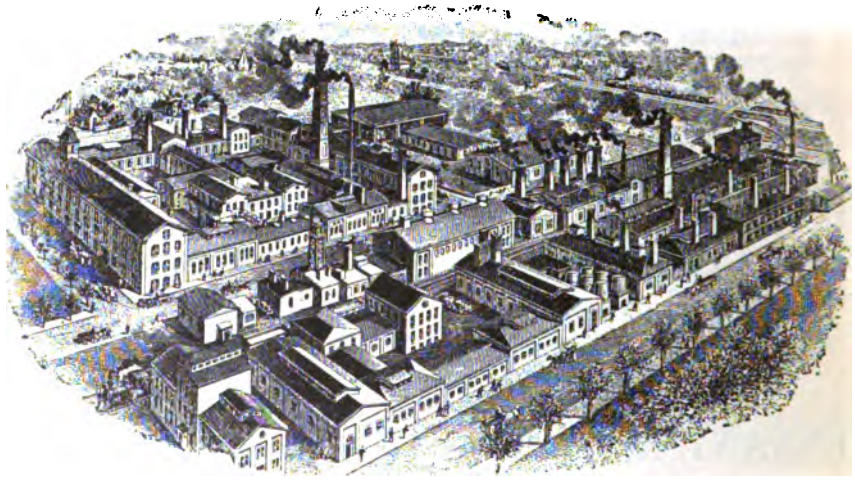

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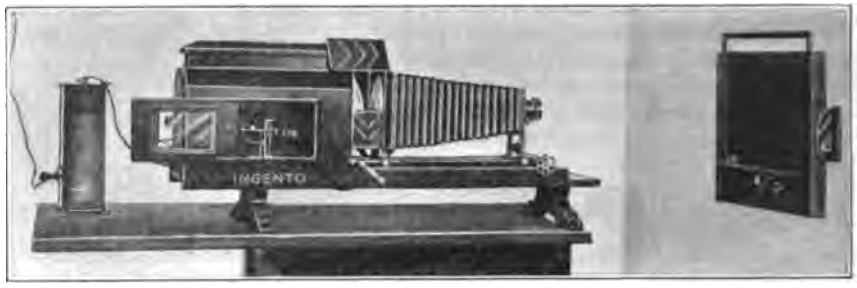

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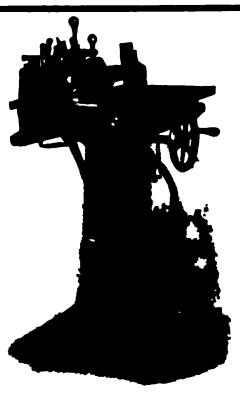

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WILSON'S PHOTOGRAPHIC MAGAZINE

FOUNDED IN 1864 BY EDWARD L. WILSON

VOL. XLIX DECEMBER, 1912 No. 672

APPRENTICES

ONE of the worst features of photography as a profession is the ease with which any Dick, Tom, or Harry can open a photographic studio and try out his chances of making a living at the expense of a long-suffering public and nearby photographic studios.

Before the doctor, dentist, lawyer, or accountant hangs out a shingle they have spent several years studying their particular profession and have passed a searching examination as to their fitness to practise law, medicine, etc. Even the plumber and the undertaker have to prove to an examining board that they have learned their business. With photography there are no such formalities. Any man who has failed in several lines of business cheerfully turns to photography, sure that here at least he will be able to make money with the minimum amount of knowledge, experience, or capital.

The United Typothetæ of America, the master printers' association, at their last annual convention, adopted the following resolution: That, Whereas, the subject of proper apprentice instruction and training is one of the most important problems today facing our country and our industry: and Whereas, it is the sense of this Typothetæ that a careful investigation of this subject should be made, to the end that a comprehensive and practical plan may be devised whereby this Typothetæ may take the steps necessary for the development of an efficient training system.

The Typothetæ then appointed a committee and authorized the expenditure of two thousand dollars to carry on an investigation.

Here we have a first-class example for the Photographers' Association of America to follow. There is a crying need for such an investigation in the professional photographic field. The Association has ample funds and any money invested in the promotion of any plan that will raise the standard of entrants into professional photography will be money well-spent.

The announcement that the University of Syracuse is to open a School of Photography and confer a degree in photography marks the beginning of a new era, and in a few years photography will be accorded its proper place among the arts and sciences.

We commend the apprentice question to the incoming executive committee of the Photographers' Association of America for their consideration.

SPECULATION

RIGHT now, and evermore hereafter, let the idea of speculation in photographs be soaked into your system so thoroughly that every order and every customer will just naturally set the mind to work to determine just where and how some work can be done that will sell and increase the amount of the order and yet keep the customer pleased and satisfied.

It is the prettiest and most fascinating game in the business, and with judgment, the most profitable. There are possibilities in every department of the work, and no employe should get the idea that there is no chance for him or her to do some little bit of work that will add to the value of the finished product. The one who comes into contact with the customer in the reception room has, of course, the first call for opportunity, and it is also necessary to back up the work of the other departments and not permit their extra work to go without pay for it. The maker of negatives has the second call, for extra negatives and different poses or larger sizes are all good speculations. The printer and the outside man have the next call, with the retoucher and the dark room man running last.

In order that the suggestion may take a more concrete form we give a few instances of speculation where the results have been more than satisfactory. The adoption of the "per picture" price scale has given the receptionist a greater opportunity than almost any other method of selling. Instead of letting the customer take the $5 a dozen work, the idea is to get the order for six higher grade pictures for $3, or even three for $5, if it can be done. This means that the first picture is $3 and the duplicates are $1 each, or at the rate of $14 per dozen, though the word "dozen" is not allowed to get into the conversation. The original order will not amount to a bit more, but the first order is only a starter. This work of raising the grade of work without necessarily raising the amount of the original order is purely within the realm of the saleslady, and will increase the amount of business done by 25 per cent. This is just one of the many ways that can be made the daily routine of business until it becomes second nature, and then it has become established as the standard of the place.

The handling of the subject under the skylight and the making of extra negatives and extra sizes, different costumes, draping, and groups, all present opportunities that should never be neglected wherever there is the slightest chance of either adding to the amount of the order or pleasing the customer or advertising the studio. Inviting in celebrities or rare characters that are well known, making unusual pictures for display and advertising, all of these are good speculation.

The printer follows up the work with samples of masking and the use of different papers or different surfaces that improve the appearance and selling value of the work; the making of combination groups from baby negatives where the parent orders only from one pose but would like one each of other negatives that possess some expression or pose that is pleasing. If the extra negatives are made the printer should make use of them, and by showing better prints from negatives that have not been ordered from, the orders will increase in numbers and average price.

The retoucher can transform a

plain picture into an artistic one by working in a background and touching up highlights and remodeling. If the order is for plain, straight prints, after the order is finished the same negative can be worked over and a background worked in and a different style of print made with these changes, and the customer shown the advantages of higher priced work. If the difference really exists, enough customers will be found who will take the extra pictures at a higher price to more than pay for the extra time spent on the negative.

The dark-room man has the enlarging under his supervision, and if he cannot pay his wages from the enlargements he makes he is not up to the latest wrinkles. Enlargements from good negatives can hardly be told from contact prints, and, if carefully made and not held at too exorbitant a price, sell readily and create a demand for more. This is one of the best avenues for speculation in the business.

The outside man has opportunities for taking everything in sight, whether it has been ordered or not. He is called for some specific job and if he is wise, he can quickly discover other work that ought by all means be made, and which, if well made, will be eagerly sought after. The quality of being able to see the new jobs must be cultivated, however, and it requires quickness of perception and a ready argument. Sometimes a quiet determination that leads to making the exposure, in spite of the protests, and then waiting until the work is finished to solicit the order is very effective. During the holiday trade there are many opportunities for speculation that yield immediate profits. Of course, if there is a rush, one is tempted to take what comes and not try to increase the work, but if this is necessary, then the possibilities for future orders should be recorded against each promising customer's name, and the extras be worked up after the holiday rush, when business is due for a let down.

When the weather is bad, then business must be sought after, and speculation is more necessary than ever if the receipts are to be kept up. The possibilities of extra work should be kept before the worker in each and every department, and even if it is a one-man gallery, he should hold conversations with himself to find out whether he is holding up each end of the work and making the most of it. If the idea of speculation once becomes ingrained into the system, there are now a lot of one-man galleries that will shortly develop into two- or even three-man galleries. It does not pay to take on new help unless it pays for itself and makes money for the proprietor, but if each department is constantly keyed up to the opportunities before it, the more help the more money.—*Trade News.*

SCREENLESS COLOR PHOTOGRAPHY

BY MARCUS G. LOVELACE

[THE following interesting article on the latest phase of color photography, is taken from the *American Annual*, 1913. It is but one of many useful and interesting papers to be found in America's only photographic annual.

Every photographer should procure a copy for his working library.—EDS. W. P. M.]

THE idea of obtaining an image in colors by means of the camera seems to have constantly occurred to the early investigators of the art, but its difficulties were strangely minimized. It was largely the opinion of those who should have known best, that the matter of making a colored image was a detail of the main process that would be worked out a little later.

The basic facts and principles of the art-science were so new, and they had been so absolutely confounded by this new marvel, that for a time incredulity seems to have been a lost art. Many of the early investigators were led astray by the fact that not infrequently the image of the daguerreotype presented itself in colors more or less true to nature. This fact is well attested, and we can but believe that there was a formation of one of the sub-chlorides of silver in the delicate film of the daguerreotype, or that the colors were due to laminæ of silver. The former explanation seems the most plausible, at first sight, but in the original daguerreotype chlorides played no part, and the formation of laminæ of silver is probably the correct one.

The other early method which possessed the greatest fascination for many of the great pioneers was that of the use of the sub-chlorides of silver —notably the violet. From the days of Seebeck and Poitvin the devotees of this clue to direct color photography have followed its course, but with little or no direct result. The great point of this method is that it has so far been impossible to render the results permanent. The possibilities are great, and it needs but another Sir John Herschel to tell us of a fixing salt that will hold the colors as they are. The first work along this line was done by Seebeck, who in 1810 noted that some of the chlorides of silver took on the same shade of colors as the light that they were exposed to. The violet rays, however, produced brown, blue, and violet; the blue rays produced only blue, and the red rays produced a very fair red. Herschel in 1839, in a paper to the Royal Society, described the very beautiful representation of the spectrum that he had obtained by exposing a surface of silver chloride to the action of the sun's rays when dispersed by a prism.

Hunt, Becquerel and Niepce de St. Victor, the distinguished relative of the real discover of photography, were all at work at this idea in the course of the next few years, and lastly Poitvin, who had touched so many sides of photography, came nearer to the goal than anyone before him, and whose results represent practically all that has ever been achieved along that line. Sulphuric acid was the fixing agent used by Poitvin, and with fair results. The prints, however, would not stand exposure to strong light for any length of time. His researches, however, have borne no fruit, although the process is more nearly what is meant by color photography than any screen plate can be.

In spite of its apparent simplicity and its satisfactory rendition of color, the Poitvin process, boundless as are its possibilities, up to the present has remained a laboratory experiment. In 1887 Carey Lea became the most interesting figure in the photographic world from his papers on the haloid salts. He conclusively demonstrated that these were capable of taking many colors, through the action of light or even of chemical means. The salts were ranged in the order of bromide, iodide, and chloride as re-

gards the variety of shades that were found possible of production.

The red chloride was found to be capable of covering almost the entire of the visible spectrum, as far as the number of shades producible was concerned. This may have been formed in the Poitvin method, although Poitvin distinctly states that the salt formed was the violet sub-chloride. Carey Lea obtained fairly good copies of the spectrum in his experiments, although the green and yellow were rather feeble. This difficulty could be overcome, doubtless, by the use of suitable screens to restrain the balance of the visible spectrum, allowing the yellow and green rays sufficient time to act with equal intensity with the subdued rays. Lea tells us that under different colored glasses he obtained fair representations of the colors of the intervening screen. The fact of his using glasses speaks for itself. Those of us who in younger days have used the shilling ruby lamp, with a piece of deep ruby glass, can remember the amount of actinic light a "deep ruby" will pass if it is not spectroscopically right for the purpose.

Under the action of white light these chlorides all darkened, but on the addition of a small amount of lead or zinc chloride this was obviated and the paper would bleach in white light. The presence of a small quantity of sodium salicylate in the coating of the paper was found to increase the speed very much and greatly reduced the time of printing. This method of color prints has always seemed to the writer to be greatly neglected for the three color process, and it seems a great pity that none of our modern research men have taken this matter under their consideration.

The process itself is simple. Paper is coated with emulsion of silver nitrate alone, without any bromides or iodides being added. After being dried the paper is immersed in cuprous chloride, dissolved in water. Sub-chloride of silver is formed which is capable of taking almost any color of the rainbow, according to the shade of light that it is exposed to, and requiring but a more suitable method of fixing to make it a most simple and satisfactory process. The experiments of Poitvin and Carey Lea may be found in any photographic dictionary worth the name, and are easily repeated.

The Lippmann process referred to is the invention of Prof. Gabriel Lippmann in 1891, and depends on the phenomena of interference of light waves for its success. Reflection on themselves of the waves of light falling on the plate produce laminæ of silver in the film that produce color in the same way that a piece of pearl does, or the prismatic colors in a soap bubble.

The plates themselves are rather peculiar, but can be made with sufficient perfection at home to enable curious ones to test the process. The following formula by Mr. Senior will be found very satisfactory:

No. 1

Gelatine (Nelson's No. 1)	75 grs.
Potassium bromide	32 grs.
Water	8 ozs.

No. 2

Gelatine	75 grs.
Silver nitrate	45 grs.
Water	8 ozs.

The gelatine should be swelled in each case and then dissolved in water raised to about 80° F. When all is in solution add No. 2 to No. 1 slowly and proceed to coat plates at once, as the grain becomes coarse if the emulsion is allowed to stand, and will fail of its purpose. Just before coating add the following solution to render the emulsion orthochromatic,

the following quantity being added to each 3½ ounces of emulsion:

50 minims . . 1:500 sol. cyanine in alcohol
33 minims . 1:500 sol. erythrosine in alcohol
170 minims . saturated sol. glycin red in alcohol

The emulsion should then be filtered through fine silk or muslin and coated on the plates, which should be cooled immediately on ice. When set they should be washed for about one-half hour and dried. These plates may be obtained commercially of Richard Jahr, of Dresden, who also supplies all the apparatus for the process. The speed of the plates may be increased somewhat by flowing them before exposure with an alcoholic solution of acetonitrate of silver, or by the addition of a small amount of silver eoside to the emulsion, about 3 grains to each 3½ ounces of emulsion being about right.

A little sodium sulphite added to the emulsion will enable one to heat the emulsion to 102° F. with corresponding increase in speed and with little injury to the grain. The exposure must be made through the glass, with the plate back with mercury. Slides are made for this purpose, but it is possible to improvise a slide that will be quite sufficient for experimental work. The mercury must be C.P. and the film of the plate should be in the plane of the ground glass. The plate holder thus is really a trough in which the plate forms the front surface and which is filled with mercury. The quantity of mercury back of the film need not be very great, a couple of millimeters being sufficient. The mercury must be poured into the back or plate holder, as you like to call it, as rapidly as possible, or there is a possibility of markings.

Exposures are largely a matter of cut and try, as homemade emulsions vary so much, and the manufactured plates themselves being so very variable in this respect. Four or five minutes at *f*/8 with the emulsion given would be somewhere near correct. Development should be short as a general thing with a weak developer, as, if the plate is too dense, the colors are either dull or not apparent at all. Fixing should be of short duration, as it is possible to fix the most of the image right out of the plate if overdone.

After washing, bleach in mercuric chloride with a little bromide added and then blacken in sodium sulphite. A little underexposure with subsequent intensification frequently gives better results than straight development. On drying, the colors are apparent when the plate is viewed at the proper angle. That is the fault of the whole process. There is no satisfactory way of projecting them on the screen, and neither can one make prints from them with any of the colored paper processes.

The results, however, are very beautiful as a general thing. The colors are produced in the film by the interference of the waves of light. The ray passing through the film rebounds from the mercury and forms laminæ of silver in the film at the points of reinforcement between the direct and the reflected rays.

Rothé, of Paris, has succeeded in obtaining results equal to the generally accepted process by simply placing the plate in the dark slide without mercury, the reflection in this case being doubtless due to the air surface in contact with the plate. It has also been suggested that celluloid or collodion films might be silvered and then pressed into optical contact with the film, and with equally good results.

Senior, of London, has measured these laminæ of silver and found them to be separate films of silver with distinct separating spaces. The plates must be viewed at a certain angle,

which must be established by trial when all the colors of the original become apparent. The Lippmann plates are very true to nature, and, as a matter of fact, are more nearly a perfect reproduction than any of the other processes. They are the only plates which have ever been satisfactorily adapted to the photography of the spectrum, and for a very simple reason. The Lippmann plate uses the pure spectral colors and allows them to work without let or hindrance on the sensitive salts.

The other color processes all reduce the spectrum to mixtures of three colors, and until the three filters of the screen plates are the three spectral colors that are needed they will not be available for spectrophotography. Dr. Duncan, of the University of Wisconsin, showed us last winter some autochrome plates of spectra and polarization phenomena. The spectra were all reduced to the three well-known colors of the autochrome plate, cutting off abruptly at the ends of the color. The Lippmann plate does, however, give splendid representations of the spectrum and with remarkable fidelity.

Prints in colors are what we are all looking for, and while the Uto paper gives us very good results there seems to be something that is wanting; possibly the Poitvin process will be brought to the point of commercial availability and give us better prints than we get on Uto paper.

It is possible that some of the readers of the *Annual* may care to try to make a bleach-out paper similar to Uto, although not the same thing. Coat good paper with the following emulsion: Soft gelatine, 90 grains; water, $2\frac{1}{10}$ ounces. Soak gelatine until swelled and then gently heat until dissolved, adding 60 minims of a $\frac{2}{10}$ per cent. solution of methylene blue, 25 minims of alcoholic solution of auramine of the same strength and 30 minims of $\frac{1}{2}$ per cent. solution of erythrosine. Filter and coat on glass or paper. Before using, the film must be exposed to the action of hydrogen peroxide for a short time.

About 10 minutes under a colored transparency will be sufficient printing in good light, the print afterward being soaked in water. The results are generally very satisfactory. A piece of $\frac{5}{10}$ celluloid between the paper and the transparency will kill the grain and serve to protect the transparency.

The above is a modification of the Neuhauss-Sczepanik process and will be found to be very satisfactory in a modest sort of way, although the colors are not as good as those of Uto paper. The direct process in colors is not yet, in the humble opinion of the writer, although the plates and papers that are on the market give us some very beautiful results. It is hoped that possibly this little note on the direct color processes may awaken interest in the mind of some lucky one who may find the desired means of making pictures as we see them and of giving us good prints on paper as well as on glass, and giving us lantern slides in colors that will not need an arc light to get fair illumination on the screen.

Just think of the possibility of making colored enlargements. But enough; the subject is too fascinating. Ours is a great art, and an unappreciated one. The first steps are too easy—too productive of the man who goes around with a 5 x 7 on his shoulder and a caller-out by his side, and the chap who runs a post-card gallery and produces horrible things at ten minutes' notice with a mercury vapor light. We are not well enough organized. We need more clubs with good reading

rooms, stocked with a *good* library of works on the subject and its kindred ones, chemistry and art.

Most of us are far too ignorant of the chemical side of our work. Many of the worst blunders of the old-timer, as well as the beginner, can be traced to this fact. I met a man not long ago who substituted sodium carbonate for sodium sulphite in his fixing bath because he was short of sulphite and seemed to think any sodium salt would do.

We should be proud of our art. It has given the world the illustrated magazine if nothing else. It has copied the masterpieces of the old world in their actual colors. It has placed within the reach of the masses a multitude of pictures and scenes of immense value from a cultural standpoint; in fact, John Richard Green, the famous historian-clergyman-philanthropist, used to say that he regarded the six-penny photograph as doing more to keep up the family spirit in the homes of the poor, in the inevitable separation that comes to the great army of "have-nots" so much sooner than to the "haves."

We should be proud of our great brother photographers — those who have done so much for the art with the handicap of the incompetent within the ranks and the soi-disant "art" critic without, the type who imagines a year's residence in Europe and ability to make a poor sketch is sufficient ground on which to sneer at photography as an art. Let us be kind to the amateur; we all began that way, and the time is still within the memory of man when the best of us—Norrie, Dührkoop, Stieglitz, and the rest didn't know a speed shutter from spherical aberration. If it were not for the amateurs the stock houses would soon be under water, and many of the men who have a sign out and are doing professional work could learn much from some of the enthusiastic amateurs around them.

COPYING PHOTOGRAPHS

BY ROBERT MELVILLE

An up-to-date photographer is an all-round man. If he would achieve success he must be ready to take up any business that comes his way. Ready, too, to *make* the business come his way. Every-day portraiture is and will remain the staple and backbone of all business, but the sidelines are usually added lines—as much "found money" to swell the net profit. Sidelines often make the difference between loss and gain. The stockyards of Chicago (when beef sells at normal) make their margins out of what is waste to a village butcher. The motor "buses" which dash along the streets of London return handsome dividends to their owners, but the receipts from the advertisements which are pasted over the buses pay every dollar of those dividends. The value of a specialty has been repeatedly, and wisely, urged in Wilson's; and the specialty is not, usually, a leading line —in point of production—but a line which produces *extra* money.

One of the soundest sidelines in connection with photography is copying. There is an old theory abroad, especially with the country photographer, that copying is hard work. At least it is careful work. But no

man is likely to succeed in photography unless he has, at the least, a capacity for taking pains. And beyond a moderate amount of painstaking there is no especial difficulty. Copying should be as much in evidence as enlargement. There is one phase of copying which is too frequently lost sight of; the old-time pictures are very often in the hands of people who possess money. The old daguerreotypes and ambrotypes figure on many a wealthy mantel; and copying should by no means be relegated to the limbo of tintype.

If copying is carefully done the copy is usually a manifest improvement on the original—the customer can see the difference. The faded yellow of an old-time "silver print" is not in the reproduction, and the latter looks pluckier and more vigorous than its original.

Perhaps no reproduction is more beautiful than one from a daguerreotype. The grainless delicacy of the original yields a print without any trace of that mealiness so apparent in many reproductions from paper prints. At the same time, the best results are obtained only by great care and delicacy in handling. The first act with many would-be copiers is to "restore" the original; it should be the last thing thought of, except in case of absolute necessity. Sometimes a daguerreotype is tarnished over its entire surface, and in such a case the customer may elect to risk its restoration. There is no real difficulty in this, but if a mistake is made it is usually fatal. Although so permanent, the silver film is exceedingly delicate, and must not be fingered. Dust it very lightly with a soft camel's-hair mop, and hold it by one corner with a pair of pliers. The clearing solution is a weak potassium cyanide one; 3 per cent. is a suitable strength. Rinse the plate, held by the pliers, in running water; and while wet flow it with the weak cyanide solution. Let this flow over the plate, and then drain it back into its bottle or graduate. Do this several times, until the stain disappears and the picture appears as clear and brilliant as ever. As soon as this point is reached wash well in running water, and then at once, before the water collects into drops dry the plate over a spirit lamp, the heat being applied to the back. The plate should be held slopingly, and to dry first at its upper corner. There must be no hitch in the drying; the water must steam steadily off, or the plate will show a mark. And if the heating is too slow there is a risk of the silver film shelling from its support. *Pure* water is often urged in photography; in daguerreotype restoration it is very necessary. As soon as the picture is dry it should be restored to its case, and sealed around the edges with well-pressed down gummed paper to exclude air. It may again be emphasized that restoration should be only a last resort. Even when the plate is tarnished it is often better to attempt copying before trying to restore the picture. In copying daguerreotypes the reflection difficulty will probably occur. It can best be got rid of by a black tunnel, reaching from the camera almost to the portrait; or the tunnel may resolve itself into a box, dead black, or velvet lined, with the plate against the end, and the light admitted through holes in the sides of the box. In all copying work the camera should be covered by a black cloth, with a hole just large enough to let the lens peep through.

Perhaps the fundamental mistake in copying, particularly in copying daguerreotypes, is over-exposure. This does *not* mean under-exposure; but give a generous exposure and develop

for the lights. Don't kill these in an attempt to extract all the detail from the shadows, or flat prints will result. Develop for the lights, and the shadows will usually turn up satisfactory.

Glass positives or tintypes are subject to the same rules as the daguerreotype, except in the matter or manner of their delicacy. The old glass "positive" or ambrotype is really a weak, thin negative, backed up by some black material which, showing through the clear glass of the shadows, reverses the nature of the print. Where the black is partly worn off a new coating should be given, or a piece of black velvet may be pressed against the back of the picture. Never attempt to clean the black varnish from an ambrotype without first being quite sure that it is not coated on the film side, as is often the case. If the print was in the beginning backed with black velvet, instead of varnish, it may be used as a very thin negative and a direct print obtained. Retouching negative copies is usually a mistake; a reproduction from an old-time photograph should retain all the old quaintness of the original. To transform it into twentieth century work is not only vandalism, but is also rank bad business.

The copying of paper prints is in some ways easier than the copying of earlier kinds of work. The usual troubles to contend with are fading and yellowing. An ordinary plate is better than an orthochromatic one, unless the photographer understands these and when to use them. The yellowness may be counteracted by placing a blue screen in front of the print. What part of it has faded away is beyond the reach of any camera, but a print from a correctly made negative will be more vigorous and without the faded suggestion of the original.

I have not touched on the working-up of the paper print. The general advice "don't" is good advice. But where they are to be worked up they fall to the spotter, who must beware of doing too much. And where possible it is better to work on the resultant print rather than on the original.

Copies, like portraits of today, give scope for the exercise of taste in trimming and mounting. In the original, mounting as we understand it today is non-existent; and it is more than probable that the spacing can be improved by the trimming knife. These are perfectly legitimate points, and are worth careful consideration.

A few copies, preferably enlarged, and *with* their originals, should be in every reception-room. They will advertise themselves and draw business. The copy will look well on a broad, white, tinted centre mount, in a simple wood frame, very plain and narrow and probably light in tint; the original photograph close to the frame in one of the lower corners.

UNDEREXPOSURE

BY F. H. C.

THE complete preventibility of the commoner errors is one of the wonders of the photographic world. No one who has noted the specimens of a large number of photographers can fail to have repeatedly seen instances where the wrong thing has been done without the slightest saving of time,

trouble, or money. Why should these things be? The probable reason is the lack of intelligent observation, which is one of the favorite failings of a number of photographers. They have a fixed routine of work and never vary; they have turned out just one brand of just one pose so long that it has become mere unintelligent routine.

In looking at specimens from hundreds of photographers those photographers who do a cheap class of work for our farmers, and miners, and artisans—I have noticed with some surprise the prevalence of underexposure. It is so common that there must be some explanation of it. Is it that the customers like that class of thing? They take it and are apparently satisfied with it, but to suppose that they *demand* it (that demand of the customer is a much worked excuse) is very difficult. The working-man does not, perhaps, appreciate either matt prints or "new" school work, and he has a natural desire to doff his overalls and be seen in his best attire: but he can appreciate good technique if he gets it, and will not require much "educating" to it. Too often it is the photographer who needs the educating—and when he gets it his business feels the help.

One of the first requirements of a good photograph is a soft and delicate lighting. Few working-girls will object to that, but they get instead hard, fixed expressions, compressed, immobile mouths, and staring eyes. The pictures entirely lack all the delicate details which make for distinctive likeness. In real life a healthy, happy girl is a pleasing sight. Some of them have complexions, and we are told (not altogether truthfully) that the camera cannot take note of complexion. But it can take note of the smile or the life lurking in the corner of the eye or around the mouth. Most of this is banished by the photographer's trussing of his sitter—the head-rest still exists in many a country gallery—and what little is left has not a chance in an underexposed negative.

Underexposure means hard, white faces, strong patches of light and deep shadows. Where retouching is done a certain amount of polish can be given to a hard face, but the likeness cannot be pencilled in. Underexposure adds age, and at no period of their lives are people flattered by a suggestion of many years. The whole secret of successful pictures of old people is a full, almost overexposure with soft development. This softens the shadows and softens the wrinkles; and a fully exposed plate is three-fourths the battle to the retoucher. Let a photographer once learn to take soft, pleasing portraits of old people, and he will find more grandfathers and grandmothers coming to the gallery. Or take the other extreme—babies. What countless thousands of babies are brought, during their long-clothes period, to the studio. There is—except the "nude"—one special baby pose in small galleries. The baby's head figures near the top of the print, and baby's dress spreads like a fan across the print. So far so good. It is, of course, possible to have several more or less stock poses for babies, but this one seems sufficient in practice. But the dress usually has several rows of lace around it, and some work which at least is not a plain level expanse of white. In the photograph all this is lost; the dress is a white patch against a rug. It seems self-evident that mother would not complain if the frock stood revealed, a mass of fancy-work.

But babies are difficult little creatures to handle; they are so restless. Is this why they so consistently receive insufficient exposure? Perhaps so, but

the argument does not hold good for old people, or for any people who are old enough to understand the need for stillness. Underexposure is a preventable fault. There was a time when albumen paper was invariably used, and when the slightest suggestion of modulation in a hard spot was noted by the paper. But newer papers have demanded softer negatives. Some photographers have not yet learned that sufficient vigor has no necessary connection with great contrast. One of the most curious things in this connection is the consistent abuse of platinum papers in some galleries. Platinum paper is a higher-priced line, and a profitable one; it is the star process of a photographer who does not use carbon. But platinum is not here to stay merely because it is a "permanent process;" it is here largely because it is a beautiful process, unsurpassed in its delicacy and softness, and the purity of its tone. But the worker in underexposure gets a negative which is at its worst in platinum; he misses all the real beauty of the platinum, and his only reasons for offering his prints are their reputed permanency and their reputed fashionableness. Add the visible beauties of the platinum to those assured merits, and surely it would be easier to persuade the public. In some galleries there is but one camera and an old-time lens, which does its work but has not the speed of a more modern one; in some galleries the light may be not too abundant. But these are occasional defects, not so widespread as the defects of underexposure. And even working with lenses or light with limitations, underexposure is not always necessary. The fact seems to be that photographers underexpose because they have done so, and continue to do so. If the worker aims at a sufficient exposure he can usually attain it; that he does not do so is one of the inexplicable things of photography.

The most obvious faults of poor work are the faults which can be the most easily remedied, and without any loss of either time or money. Underexposure is one of the worst of these faults, and it is one of the simplest of which to steer clear.

DOMESTIC INTERIORS

BY "PROFESSIONAL"

CURIOUSLY enough a man will tramp for miles with a heavy camera slung on his shoulder, or sit grumbling all day long at home because of nothing to photograph, and yet it will never enter his head that "in and out and round about" his home there are sure to be lots of corners which would all make good pictures. The very sitting-room where he sits and growls would very probably make a good subject if only a suitable lighting and arrangement be employed.

Now as to Lighting. There is no hard and fast rule, but as a very general and practical guide we may say that the most picturesque effect will not be obtained when the sun is exactly in front of the window. With the sun a little to one side or the other we shall get an oblique and far more pictorial and interesting effect.

As to Arrangement. The chief thing in arranging an interior is to make things look "as if they had not been arranged, but are just as they usually

are." A pipe laid across an open book, an open letter and torn envelope, a hat and gloves, an open work-basket, these and half a score similar objects will suggest themselves to the reader as personal touches indicating that the room is not a "withdrawing" room for state occasions, but a living room in daily use.

As to the Furniture. Bear in mind that the lens tends to exaggerate and distort the objects nearest to it. A *small round* table near the lens and appearing in the corner of the foreground will probably come out far too large and very likely oval in shape. To move the table from its accustomed place and away from the camera will probably give an unusual arrangement and also make the room look crowded and arranged, but if omitted altogether its absence will not be detected.

The point of view is most important. The commonest fault is pointing the lens into the opposite angle or corner of the room. This gives us a vertical line down the middle of our print. If one side of the room is darker than the other, then point the lens slightly toward the darker side. The next fault is having the lens too high above floor level. The smaller the room the lower the view point is a good rule, and $3\frac{1}{2}$ to 5 feet will be found a useful working margin.

To Prevent Tripod Points Slipping. The best thing is a rug or carpet on which to stand the tripod. If these cannot be borrowed, then use a long piece of string and give it three or four turns round each leg about six inches from the ground, and then *tie the ends* of the string.

Reflection. As a good deal of our furniture has a polished surface, and as these glittering patches yield horribly spotty lights in our picture, we must always be on the watch to guard against them as far as possible. Very often a glittering light can be got rid of by moving the article an inch or two. Picture frames and their glasses are a great nuisance in this way. A wine cork or a handful of crushed-up newspaper placed between the frame and the wall will usually give it enough tilt to get rid of the glitter. Chimney pieces, ornaments, fire irons and all like things need watchful attention. Bear in mind that an object may show a bright reflecting surface when you see it from one position and not do so when viewed from some other position. Having got your view point fixed, then unscrew the lens, throw back the focussing screen and look at your subject through the hole of the lens flange. It may happen that some of the reflections you have been troubling about do not appear from this point, while others previously unnoticed do so appear. This plan of direct inspection is better than trying to see and locate them from the ground-glass inverted picture. It is easier, quicker, and far more certain, but do not forget to view all your picture by putting the eye to all the four corners of the back opening of the camera.

Kitchen Studies. The more a room is used, the more "homey" it gets, and that is why photographs of drawing-rooms and other state apartments look so stiff, cold, formal, and unhomelike. We shall find our best bits and corners in the nursery, kitchen, bedroom, snuggery, and other parts which are for use rather than ornament.

A Tip. We may take it as a good general rule that the further we can get away from our subject the better proportions and perspective we shall get. It may not occur to every one to view his subject from outside the room itself, *i. e.*, through the chink of a half-open door. But very often this gain of an extra foot or two makes a

good deal of difference. In the case of a two-windowed room on the ground floor or "giving" on a balcony we may sometimes stand the camera outside one of the windows.

Practical Pointers. (1) A lens of moderately short focus is generally necessary for this kind of work, but it is quite a mistake to go to extremes. A good general guide in such cases is to have the focal length of the lens intermediate between the length and breath of the plate. Thus for a quarter-plate the focal length may be between $3\frac{1}{4}$ and $4\frac{1}{4}$ inches, preferably nearer four than three inches. (2) We often notice in small interiors an up-hill look about the floor. This is due to the use of the lens too high up above floor level. If the tripod has not got sliding legs to bring the camera to about three or three and a half feet from the ground, then use a small table as a camera stand. Sometimes we can put the camera on a bookcase, shelf, or mantelpiece, and so get the lens farther away from our object than it would be if a tripod be used. (3) As to exposure and development the best plan is to follow the well-proved rule of exposing for the shadow and developing for the high lights. Most interior negatives are under-exposed. This probably results from the necessary employment of a small stop to get the required depth of focus, and again the eye does not adequately realize the strong light and shade contrasts in most cases. In rooms with small windows, *e. g.*, kitchens, if the walls are not already of a light color it will be found very advantageous to fix up a white sheet or table cloth flat on the wall opposite the window (and of course out of the view). This acts as a reflector and diffuser and saves the dark corners from coming as detailless clear glass in the negative.

Most interior negatives are over developed, and this tends to accentuate further the contrasts which under exposure has already emphasized. The best kind of developer for interior work is one which brings out all the image quickly and then builds up density contrasts gradually. For this purpose metol or rodinal freely diluted are to be preferred. When in doubt it is better to over rather than to under expose, as prolonged development will generally give enough contrasts unless the exposures has been very much over done. Similarly it is better to under rather than over develop, because intensification will easily give us added contrasts; but it is not an easy matter to reduce without losing some of the shadow detail and lower tones, or alter the gradation. In all kinds of interior work the shadows are nearly always far more important than the high lights.

If the lens is not fitted with a shade, then with the aid of a piece of card folded inside the focussing cloth arrange a projecting fold on the window side so as to prevent any light falling direct from the window on to the front surface of the glass.

THE MOVING PICTURE FOR TRADE PURPOSES

SOME years ago I remember discussing the future of animated photography with the then leading spirits in the cinematograph world, and the forecasts were of a very diverse character. To some, the moving picture as an entertainment would have a short but merry run, and then abso-

lutely die out. Others prophesied that in place of the ordinary camera every amateur photographer would be found winding the handle of a miniature cinematograph camera. Both these forecasts have proved to be incorrect, but I distinctly remember Mr. Charles Urban stating in the most emphatic manner that animated photography was then in its infancy, that it would develop enormously, that moving pictures would be shown at all leading places of entertainment, that the cinematograph would be applied for educational and trade purposes, and that it would also be utilised as an aid to medicine and surgery.

Looking back now, how wonderfully correct Mr. Urban's estimate has proved to be. So true, indeed, that one might almost imagine the forecast had been written today as a record of the developments which have taken place in the moving picture world.

Most of my readers are doubtless aware that, in addition to the huge demand for picture films for the purpose of entertainment, many thousands of feet of film are constantly consumed in the production of subjects for educational purposes. Not long ago a description appeared in these pages of a very wonderful demonstration before the medical profession of films illustrating disease germs and bacilli in the blood. Now comes the intelligence that a large company in Ohio which manufactures brick-setting machines, sand driers, brick, and cement machinery, etc., has been using animated pictures for some time to demonstrate its goods before possible buyers of this kind of machinery. Films have also been made to illustrate laundry machinery, hop-picking machinery, marble-quarrying outfits, excavating outfits, derricks, water sluices, and rubber manufacturing machinery.

The application of the moving picture is being carried still further into the ramifications of trade, and picture films are used to sell motor cars, bicycles, tires, golf balls, soap, lace curtains, and even fountain pens. There are two ways in which the pictures are displayed for the purpose of creating sales. One is by means of a small machine which the traveller carries in a compact little case, and the projection of the film takes place frequently upon the walls of the offices of prospective buyers. The other plan is to arrange with the proprietors of picture theatres to include in their programmes a trade film for a consideration. I noticed the other day the Humber Cycle Co., advertising by posters, that on a certain date the whole process of the manufacture of a Humber machine would be shown upon the screen of a Holborn picture theatre.

A good deal of time and money is being spent upon the exploitation of methods and processes for the production of films in colors; but, in the opinion of at least one expert, this will prove to be a barren field.—*Photographic Dealer.*

PHOTOGRAPHS FOR REPRODUCTION

WHEN making a photograph to be used for reproduction or half-tone work several things should be considered.

First, we will take up the surface of the print. It is commonly known that a print having a glossy surface is the most desirable, especially if all

detail is to be preserved in the reproduction. This is a fact, but a half matte or even a dead matte print will make a first-class reproduction provided the surface of the print is smooth. The gloss or lustre is not necessary, but as such surfaces are usually smooth, they have grown in favor to such an extent that half-tone workers demand prints having such a surface, or they will refuse to guarantee a good halftone plate. In this they err, but as so many dead surface prints are accompanied by more or less grain, the halftone workers concluded that only glossy surfaces were suitable. The blame was not placed on the grain, where it belonged.

Of course, almost all photographers know better than to expect a good reproduction from a coarse-grained print, but there are still a few (and some of the better photographers, too) who seem to think that to get a really artistic reproduction the print used must be artistically printed on a rough surface paper. At any rate, they continue to send to magazine editors for reproduction beautiful specimens of their work printed on a rough paper.

It is hard to get a real artist photographer to allow a print from one of his portrait negatives to leave his hands when printed on a smooth lustre paper. To his eye they look so much better printed on a paper giving a softer and more velvety effect. It is true that they are better to look at, but not better for reproduction.

Then another thing that half-tone plate-makers almost insist on is a print having a reddish or brown tone. Prints having such a tone will reproduce well, but an olive-black print will reproduce fully as well.

The prejudice against black and white prints for reproduction purposes has been caused by the blue-black tone. If there is a trace of blue tone in the black print it will lose quality in reproducing, but an olive-black print will come out rich and vigorous in the reproduction, just as a red or brown print will.

This is accounted for by the actinic effect of the blue rays reflected from the blue-black print, which give false tone values during the process of making the half-tone plate.

Olive, like brown and red, is non-actinic, and therefore the tone values are faithfully reproduced from prints finished in any of these three tones.

To get a good reproduction, give the process man a smooth print, either glossy or dull, but be sure it is smooth. Also give him a print having an olive, red, or brown tone, and the reproduction will please you, if he has done his part of the work correctly.

We presume that you have put in your supply of paper, plates, chemicals, etc., to carry you over to the first of the year. If not you better had. Even prompt shipping stock houses are not responsible for shipping delays, which are very numerous along about the middle of this month when express companies are doing four or five times their normal amount of business.

If a negative is valuable, varnish it before printing.

In the first "Brevity" given last week benzola was a misprint for benzol.

Intensification stains are due to insufficient washing before or during the process.

Thio-carbamide, 1 dram; citric acid, 1 dram; water, 1½ ozs., will remove dichoric fog.

If Farmer's reducer is used too strong it will cause yellow stains difficult to remove.

The ferricyanide or persulphate reducer is more under control when applied locally with a camel-hair brush if thickened with glycerine.

By GIFFIN STUDIO
Wheeling, W. Va.

By GIFFIN STUDIO
Wheeling, W. Va.

By GIFFIN STUDIO
Wheeling, W. Va.

FOUR UNUSUAL POSES

By W. B. STAGE, New York

President Professional Photographers' Club of New York

1 Pope Paul III

2 Emperor Charles V

3 Andrea Gritti

4 Isabella d'Este

Illustrating Sidney Allan's Article

5 "L'Homme au Gant"

6 Portrait of a Young Man

7 Duchess of Urbino

8 Jacopo Da Strado

Illustrating Sidney Allan's Article

9 Isabella of Portugal

10 Titian's Daughter

11 Titian's Daughter

12 "La Bella"

Illustrating Sidney Allan's Article

MASTERS IN PORTRAITURE—TITIAN

BY SIDNEY ALLAN

TITIAN (his real name was Tiziano Vicellio) lived to the ripe age of eighty-nine and wielded the brush as a master for fifty-nine long years, ever since 1707, when he was thirty, and already as well known as Giorgione, up to his death. He was an "all-round" painter, as he executed frescoes, altar pieces, nudes, landscapes, and portraits with the same ease.

His style is known for its wealth of color, dignity of design, and harmony of proportion. He lived in comfort, nay, princely luxury, all his life, and was one of the few artists (known to the art historian) who led a happy, care-free life. These happy conditions are reflected in his work. It is brilliant and yet calm. He lived entirely for his art, thought of little else but to improve his methods of workmanship, and painted with as much animation at the age of eighty as when he was thirty.

Titian in his time was considered a realist. He saw objects in a clearer, more matter-of-fact way than the other Venetian painters, but at his heart he was like all the artists of that period, a stickler for classic forms, *i. e.*, he idealized the appearances of things. This is clearly shown in his portraits.

His Pope Paul III (Fig. 1) and his Emperor Charles V are perhaps his best-known delineations in that branch of art. Their value primarily is historical. Portraitry has accepted these two portraits as reliable records. These two famous personages, "rulers of the world," are known to us through Titian. They are both exceptional character studies. Fig. 1 is also excellent in composition. The pyramid shape has been used to the best advantage. The position of the head is almost too near the margin, but it helps to emphasize the age, the bent back of the sitter. Fig. 2 is more careless in arrangement. The silhouette of the feet on the floor is too pronounced and not beautiful in shape, nor is it helped by the legs of the armchair. The diagonal tendency of the figure, on the other hand, is in perfect balance with the rectangular arrangement of the background. The painter was fond of showing a rectangular opening in one of the upper corners of a portrait (viz., Figs. 7, 9, and 10). It helped to suggest atmosphere, and to give one, even with the plainest background, the idea of an interior.

A study of curves is rare in portraiture. We notice one in the portrait of Andrea Gritti (Fig. 3). There is nothing angular in the composition, excepting the head. The sweeping lines of the undergown balance the bold design of the mantle, and this line arrangement is helped by the almost symmetrical placing of the figure.

The well-known "Man with Glove" (Fig. 5 of the Louvre Gallery) resembles a modern space composition. It shows that there is nothing so very new about it, and that it is merely an interesting phase of composition. The three bright spots of the face and hands are placed in a masterly manner. The shape of the shirt front is severe, but it somehow harmonizes with the rest. Without it the composition might be better, but the effect would be more ordinary. The hands, as is usually the case with Titian when he took pains to paint them, show exquisite draughtsmanship and beauty of form. But the artist was never

afraid of being true to the costume of his period. When a lady wore long sleeves, as Isabelle d'Este (Fig. 4), he simply covered up the hands. The latter are surely not pleasant to look at.

The "Portrait of a Young Man" (Fig. 6) is excellent in tone. The face and the little that is seen of one hand are in middle tint, while the lace shows the brightest light effects; but the planes the latter make are so small that they do not disturb the harmony.

Figs. 8 and 10 are strictly pictorial in character. Fig. 8 affords a study of the parallelism of masses. Notice the lines of the fur mantle, of the contour of the head of the chain and statuette, and then again of the arms. There is action in the figure, and this animation is emphasized by the straight lines of the woodwork. "Titian's Daughter" is an example of figure painting and not of portraiture. The pose in particular is a difficult one to place if the figure is of such generous proportions as on this canvas. The area was almost too small, but the painter managed to "squeeze it in." The impression gained thereby is one of opulence and majesty. A large face or a large figure is always more impressive than smaller ones. The textural quality of objects, as of the gown, metal bowl, and combs, as in all of Titian's pictures, is exceedingly fine. The costume of 1500 was almost as picturesque as that of the Japanese, *i. e.*, it lent itself to the exploitation of beautiful pattern and decorative details.

Titian's portraits of women (viz., Figs. 4, 7, 9, 11, and 12) are justly known for their rich, mature splendor of form and the freshness and grace with which they are depicted. Titian seems to have been almost as fond of detail design as the German masters. Detail cannot be much more elaborate than in Fig. 9. At the first glance the face appears to be the least important subject in the picture, and yet it holds its own. This is not so much the result of clever line arrangement as the handling of the head itself. The oval of the face, despite the accurate drawing of the features, represents the largest, brightest, and least unbroken plane in the composition. Whether Titian really enjoyed painting these repetitions of brocade and silk pattern, of jewelry, gold lace, etc., is difficult to say. He surely did them with a master's hand. But perhaps it was only his loyalty to the objects. He wanted his art to reflect the time in which he lived, "the golden splendor of pleasure-loving Venice," and so he painted whatever came his way. He did not balk at an awkward shape.

Look at Fig. 11, his own daughter in a new gown. A fashionable array, no doubt, but one of the most ungainly contours in particular for a young girl. Why did he not change it? why did he not subdue some of its angularity? Because—in the same way as to Velasquez—truthfulness meant more to him. His aim was lifelike interpretation. To paint an arrangement like Fig. 6 was an entirely different proposition to him. That was a decorative, imaginary picture. Fig. 11 was meant for a portrait. There was no idealization of facts necessary. The idealization (of which I have spoken) was brought about by other means, unconscious ones as it were, and they consisted of the painter's superior gift of vision and the mastery of technique, which idealized by means of color values, texture, proportion, and balance. And that is the way it should be with all portraitists. Subjects and objects matter little: It is the conception in the portrayer's mind and his ability to realize them which tell the tale.

INSTANTANEOUS DEVELOPMENT OF FILMS AND PLATES

THE statement that a spool of sensitive film or dry plates exposed in the camera in the ordinary way can be fully developed in less than a quarter of a minute may possibly arouse a certain amount of disbelief. The further statement that such a period as a quarter of a minute will, under certain conditions, produce over-development, and that perfect negatives equal to those secured by any other form of chemical action can be produced in *less than five seconds*, calls for immediate explanation.

It is with a certain amount of trepidation that one comes into conflict with well-established theories. In photographic procedure the comparatively prolonged action of dilute developers in the production of well-gradated negatives is generally accepted as correct. It may be well, therefore, to say at the outset that, while such procedure appears to be sound in both theory and practice, the method described hereafter is, so far as the author is concerned, sound in practice only. Pressure of other work has not permitted sufficient time for the investigation of the theory. It is, however, by their practical application that most theories stand or fall. When, therefore, it is said that with this form of development—during the last six months—at first experimentally, and then with increasing wonder, and lately with full confidence, most of my own negatives have been produced, the reasonableness of the request for a hearing will not be denied.

To return, however, to the original statement. The ratios of time of first appearance of the developable image, time of complete development, and the temperature are now fairly well understood by most photographers, thanks to the preachments of Mr. Alfred Watkins. A fourth factor—the dilution of the developer—has not been taken into account to any extent, because it has been understood not to greatly affect the other ratios. So, for instance, if a certain developer with a factor of 10 gives its first appearance of image in 20 seconds at a temperature of 65 deg. F., it will produce its fully developed negative in 200 seconds, or $3\frac{1}{3}$ minutes. If the solution is diluted with an equal bulk of water, at the same temperature, it will normally give its first appearance of image in 40 seconds, and complete development will be effected in 400 seconds, or $6\frac{2}{3}$ minutes, and so on.

It has not been generally realized that the converse is equally capable of practical application. If instead of diluting the developer by halving its strength it is concentrated so that it is made double as strong, the other factors still hold good. With the developer mentioned above the image would appear in 10 seconds, and development be complete in 100 seconds. Double the strength again, and the completed negative will be finished in 50 seconds.

Here, however, the theorist will probably step in. The *reductio ad absurdum* has been anticipated. He says: "According to this principle, if the developer is sufficiently concentrated it would be possible to make the appearance of the image in 1-100th of a second and complete development in 1-10th second." Exactly—and the only drawback to the consummation of this achievement is the limitations in making a sufficiently concentrated developer and its powers of penetration into the film in so brief a time.

"Granted," says our friend; "and assuming that it is possible to com-

pletely and fully develop the image in even five seconds, according to the original statement, how about the quality of the negative?" That is for each to judge. Suffice it to say that, out of many hundreds of negatives on both films and plates developed by this method during the past few months, experimentally and otherwise, there is absolutely nothing in the way of gradation rendering, strength of high lights, clearness of shadows, cleanness of image, and freedom from graininess and physical defects generally that would distinguish the results from technically good negatives succesfully produced by any other means.

The two points demanding attention, therefore, are concentration of developer and dexterity in manipulation. Needless to say, when a roll of film or a plate is to be fully developed in, say, five seconds, the attention of the mind and fingers must also be concentrated.

It is well known that if a formula for an ordinary developing solution is taken (and there are many hundreds of them) and the quantity of solvent, *e. g.*, water, is reduced to, say, one-quarter, the chemicals will generally refuse to entirely dissolve, and some will remain in solid form in the liquid. If it is bolied they may dissolve, but on the solution cooling are again precipitated as solids. The use of a caustic alkali, *e. g.*, sodium hydrate or potassium hydrate, instead of the carbonate will, however, in many cases enable a much greater degree of concentration to be arrived at. Either of the following formulæ are typical examples of highly concentrated developers:

M.Q. Concentrated Developing Solution

Hot water	10 ozs.
Sodium sulphite (cryst.)	4 ozs.
Metol	100 grs
Hydroquinone	200 grs.
Sodium hydrate	200 grs.

Paramidophenol Concentrated Developing Solution

Hot water	10 ozs.
Sodium sulphite (cryst.)	3 ozs.
Hydrochlorate of paramidophenol	1 oz.
Sodium hydrate	q.s.

Add the caustic soda in strong solution until there is complete dissolving of the precipitate first formed.

Instead of these the commercial concentrated developers—Rodinal, Azol, or Certinal—can be used.

How to Use the Developer

Although it may appear a small matter to record, a certain amount of faith is necessary to follow the advice: Pour a bottleful of "neat" Rodinal on to a cherished exposure and so obtain a perfect negative instantaneously. Yet this, in brief, is the method advocated; and the only corollary to be added is: Do not waste time in getting the negative out of the developer into the fixing-bath. Either of the formulæ given above or the commercial solutions mentioned give a sufficiently concentrated solution to produce a perfectly developed negative from a properly exposed plate or film, and, moreover, a beautifully clean negative, in less than five seconds.

Five seconds has been given as the average time in which the developer can be made to completely cover the plate, or in which a short length of film (Ensignette six-exposure, V.P.K. eight-exposure, $2\frac{1}{2}$ by $3\frac{1}{2}$ and quarter-plate six-exposure, larger sizes double-twos) can be drawn once deliberately through the solution and back again. The avoidance of markings is purely a matter of practice and taking care to rinse the film or plate first in plain water.

As a beginning, do not use the fully concentrated solution. Be content to

develop the exposure in, say, half a minute. Dilute the developer one part in six of water. First, if a spool film is being treated, run it through a dish of plain water, see-saw fashion, for a minute, until it is thoroughly wetted. Pass the fingers over the surface to remove any small air-bells. Have the developer in a deep dish, which need not be much wider than the width of the film—this for economy of the developer. Hold the end of the film between the finger and thumb of the right hand. Let the film hang straight down, and take the other end between the fingers and thumb of the left hand. Plunge the lower end into the solution and gradually draw it through and up, at the same time lowering the right hand holding the other end. Continue the action, drawing the film through the developer in a U-shaped loop, until the fingers of the right hand holding the other end of the film are in the solution and the left hand is uppermost, holding the film straight down again. This is, of course, the usual method of dealing with films which are not developed in a tank. In this case, however, the tiring monotony of see-sawing the film up and down for, say, ten minutes in a normal developer is avoided. By using the formula as given (1 in 6) the negatives will be fully developed in half a minute. Reduce the dilution to 1 in 3, and fifteen seconds will suffice.

When sufficient dexterity is gained the film can be completely submerged, passed regularly through the strong solution and back again, while slowly counting one—two—three—four. The image literally flashes out as the surface of the film comes into contact with the solution, and within the time mentioned is developed through to the back. A slight pause is, perhaps, advisable as the right-hand end comes to the developer, to compensate for the double passage through the liquid of the rest of the film; otherwise, a steady, unwavering action is best. The film can then be passed straight into a strong acid fixing-bath: Hypo, 6 oz.; metabisulphite of potash, ½ oz.; water, 20 oz. When fixed, the film is washed and dried as usual.

It will be clear that for the worker with larger and longer spools of film the concentrated solution will have to be diluted somewhat to allow time for the actual passage of the film through the developer. The amount of dilution is, however, regulated entirely by the dexterity of the worker. If he can pass, say, a ten-exposure postcard spool into the developer (being more diluted, a larger quantity and a bigger dish can be used), unroll it under the solution from one side of the dish to the other and back again twice in one minute, the developer can be used diluted with about ten times its bulk of water.

It should be borne in mind, however, that temperature plays an important part in this matter of speedy development. In the case of the metol-hydroquinone formula, this is specially worthy of note, as the well-known effect of low temperature on hydroquinone developer is very marked in the concentrated solution. Therefore, use all developers, especially during the winter months, at not less than 65° F. The action slows perceptibly as the temperature falls below this, a fact that may be taken advantage of to prolong the action in place of dilution, but it is doubtful whether the resulting image is as good and full of gradation as when the temperature is higher.

Advantages and Disadvantages

It may be asked at this juncture, What are the advantages of the pro-

cess? Apart from the actual fact that a most remarkable saving of time is effected in development, with no falling off in quality, one has only to experience the task of dealing with a great number of small films to appreciate its value. When the amateur realizes that he can fully develop a *dozen* Ensignette, V.P.K., or other small-camera spools *in less than a quarter of an hour*, giving each individual treatment; when the trade worker, with the monotonous round of spools and plates day after day, finds that a day's development can be accomplished in an hour or two; when the Press photographer, to whom every instant is valuable, can have his fully developed negatives within a minute of rushing into the darkroom—then a few of the advantages will be seen.

For the worker who has stood for many weary hours developing films until his arms ache, and who cannot afford a series of developing tanks, the method should be hailed with delight. The only disadvantage that is likely to be set off against the advantages is the question of cost. The developer being used in an undiluted form is likely to be more wasteful, but if care is taken and the developing dish is stood inside a larger one, so that all overflow can be poured back again, it is surprising how long two or three ounces of developer will last. It appears to keep better in its concentrated form, and can be used over and over again until it is the color of stout, and visibly loses its potency. A plan that has been adopted with success is to pour the used developer back into the stock-bottle for future use.

So far as our own experience goes, there appears to be little difference in the extent of the developing powers of, say, an eight-ounce bottle of rodinal when used in its concentrated form and when used diluted. In the latter form it may make so many gallons of developer, which will develop so many films or plates. In the former condition it surprised us how many hundreds of exposures could be dealt with before the action perceptibly weakened, and even then it continued to do duty for some time, although its appearance approximated to that of ink.

Another Good Formula

Another developing formula, additional to the two given, and one that is well suited to this rapid form of development, is the following:

Hot water	10 oz.
Sulphite of soda	4 oz.
Carbonate of potash	3 oz.
When dissolved, add	
Adurol	½ oz.

The good points of Adurol as a developer are not fully appreciated by most photographers. The solution has extraordinarily good keeping qualities. It gives beautifully clean negatives (Adurol is also an excellent bromide and gaslight developer), and although similar in some respects to hydroquinone, has none of this chemical's disadvantages in the matter of temperature, etc. The concentrated solution given above should be used as it is, but is not quite so rapid in action as the paramidophenol formula given in the first part of this article. It, nevertheless, permits a perfectly developed negative to be obtained in a quarter of a minute. If a still greater concentration is desired with the Adurol formula, the carbonate of potash can be replaced with about 2 oz. of potassium hydrate, and the hot water reduced one-half. It should be noted when making up any of these concentrated developers that the first

mixture of the chemicals with the hot water produces a pasty mass, which rapidly clears on stirring in the caustic alkali (sodium or potassium hydrate). The amount of the latter is determined by this means, as only sufficient should be added (and dissolved) to clear the solution.

Innumerable experiments, conducted with most brands on the market, have shown that the foregoing methods apply equally well to plates. The plates should also be well wetted first in plain water, the developer poured cleanly on with a single sweep, the dish rocked a couple of times, and the plates taken out at once, rinsed under running tap, and transferred straight to the acid-hypo bath.—F. J. MORTIMER in *The Amateur Photographer*.

HOW TO LEARN RETOUCHING WITHOUT A TEACHER

BY H. H. H.

RETOUCHING! Oh, I don't go in for portraits, therefore I'm not interested in retouching. That, my friend, is just where you make a mistake, or rather two mistakes. The first is in thinking that retouching is only of use or interest to the portrait worker, and the second mistake follows —like Euclid's propositions—from the first, *i. e.*, not "going in" for retouching your landscape or other subject negatives. For there are very few negatives of any kind or subject which cannot be improved by a little retouching. But, alas! another very common mistake is, that having found how easy it is to acquire the elements of retouching, the thoughtless hurry-scurry worker does far, far too much. So that the last state of his negative is worse than the first: he has pencilled not wisely but too well. As an old hand at retouching, who has from time to time taught several friends the elements of the matter in one personal lessen, I strongly recommend the beginner to start off with almost any kind of a subject rather than a portrait. In a portrait we are handicapped in two ways: first, by being too much concerned with facial expression; secondly, in this work we need the delicacy of handling which only comes after some practice. Therefore I say leave portraiture aside at first, and take, let us say, a small landscape negative. Let this be one that we have discarded so that we may have no qualms about spoiling it.

Our requirements are very few and cheap. First, a three H pencil (Hardtmuth's) in cedar (hexagonal).

Second, some retouching medium which may be bought in sixpenny bottles from any dealer, or we can prepare our own at next to no cost. Take a quite clean and perfectly dry ordinary size medicine bottle (*e. g.*, 6 or 8 oz.); half fill this with good turpentine. Take a bit of ordinary resin just about the size of a small cherry, or, say, twice the size of a full-grown green pea. Crush into powder and add to the turpentine in the bottle. Then stand the bottle in a basin of warm water and shake occasionally. Then set aside for twelve hours. Take now a small bottle—an old clean scent-bottle is just the thing—and carefully decant about a dessertspoonful of the clear part of the turpentine and resin mixture. Point the pencil with rather long sloping cuts of the wood, laying

bare about half an inch of the lead, and point the lead by rubbing on a bit of sand-paper, or old file, or rough ground glass, or a large flat pebble from a shingle beach. The lead must be as sharply pointed as an ordinary pin.

Now with P.O.P. make a print from the negative. Remove the back of the printing frame; with stopper of the small scent-bottle apply two or three (not more) drops of medium to the film, and then rub this all over the film with a spiral or circular motion using a bit of clean dry fluffless rag. Then wait about ten minutes for most of the turpentine to evaporate. Meanwhile, by means of some books, tilt up the front edge of the printing frame at a convenient angle. Put the work table in front of a window. Lay a sheet of clean white paper on the table just in front of the negative, so that when we look through the negative toward the white paper we have an evenly lighted white paper acting as a reflecting light background. Shade the eyes from light by a piece of stiff brown paper held flat against the upper part of the forehead by means of a piece of broad elastic, or lower the window blind so that the eyes are shaded, but that good skylight falls on the paper reflector. Now examine the print in a shady place. Note some part — probably in the foreground, where there are several small patches of light and shade; perhaps a tuft of grass showing some nearly white lines and dark lines. Turn to the negative, and begin by gently dotting and touching with light short strokes these lines and patches of nearly clear glass. At first little or no effect seems to come from our dots and strokes; but patience and blacklead will begin to show a little presently.

Do not begin by confining your "touch" to any particular kind of dot or stroke, but use all kinds of touches; sometimes a dot with a tail to it like a comma, sometimes two or three lines close together, and then crossed at a slight angle by other lines; sometimes a spiral touch, sometimes a wavy line, sometimes a to and fro touch, as though trying to sharpen the point. When your patience is exhausted and you have done your best to fill up the thinnest parts of the corner of the negative, then take another print and compare the two. If the prints are not over darkly printed probably your will be surprised to find that your retouching shows more than you expected. Probably, also, you will notice that it prints rather more "scratchy" than you quite like. But that you will get over with a little practice and experience.

Do not trouble about pictorial considerations at first, but go on making experiments with first one kind of touch and then another, until you see for yourself just exactly how much lead on the negative is required to produce a certain effect. Then take two small patches which print a little different and work on the thinner one, until they print excatly the same strength. This will lay a good and useful foundation of knowledge on which we shall be able to build some useful experiments in another chapter.

Take ten per cent. of your time for yourself. You are robbing your business if you don't.—MacDonald.

Good business principles backed by quality spell success in photography.—Snyder.

The best way to eliminate resittings is to express a readiness to make them. —Spellman.

THE PRESS PHOTOGRAPHER'S MARKET—WHAT EDITORS WANT

THE success of the press photographer depends upon his ability to supply photographs which possess sufficient news-interest to justify their publication, and are of a technical quality which will allow of their reproduction by the half-tone process.

The first of these points leads one to ask, "What class of subjects are in demand for press illustration?" The reply is that any photograph which depicts some unusual occurrence or object, some feature or phase of life which is seldom seen, or, in fact, anything which is out of the stereotyped "rut," is saleable if submitted to the proper market, and at a suitable time. Some subjects are of value only in connection with topics of fugitive interest, and the sales must be effected while that particular topic holds the public attention. Other subjects may have a certain permanent interest to a small section of the public, which some event may enhance into a general interest to the whole of the reading public. For instance, the present war has created a general demand for photographs illustrating the scenery, customs, and home life in the Balkan peninsula, quite apart from the pictures of actual warfare. Photographers having negatives of these subjects would, at ordinary times, probably find a very limited demand for prints, in connection with magazines devoted to travel, etc., but the outbreak of war has made such pictures of general interest, and enormously multiplied the demand. The whirligig of events brings some subjects into prominence time after time, so that by watching the current news one may often place a picture which has "missed fire" on a previous occasion.

Mere pictorial merit will never effect a sale, except possibly to the comparatively few publications which specialize in artistic matters. The general demand is for subjects of topical interest, and the pictorial element may be entirely absent, provided always that the photograph records some fact which is attracting general attention. Tommy Jones (aged five) may be the reverse of picturesque, and usually far from interesting, but if Tommy Jones (aged five) has, by some official blunder, been awarded the old-age pension to which his grandfather is entitled, he becomes immediately interesting as the youngest old-age pension on record, and his portrait automatically becomes saleable because of the news story which it tells. A padlocked gate may be uninteresting and commonplace, but if it chances to be the *raison d'être* of some important right of way litigation, it is quite conceivable that a photograph of the gate would be acceptable to more than one editor. The free-lance will find that the most profitable subjects to him are those unconsidered trifles which are not of sufficient importance to attract the attention of the representatives of the various journals or agencies, and those unforeseen happenings where the first on the field usually has the best chance of catching the market.

Most of the big functions which are announced beforehand are "covered" by the staff photographers of all the important papers, which leave such a limited market open to the free-lance that the possible profits are very doubtful.

A study of the illustrated "dailies" and "weeklies" will do much to teach

one the class of subject favored by any particular publication, and will suggest the most suitable market for placing any photograph of a limited interest. Where the subject is of wide general interest the most satisfactory way of dealing with it is through one of the press agencies which specialize in the supply of news-photos. These agencies are in close touch with the newspaper world and have a knowledge of every market for any class of subject, so that they are often able to effect a far greater number of sales than would be made by the photographer submitting direct to the principal editors. Of course, the agencies charge a commission for their services, but as they are usually willing to make the necessary prints and undertake the whole of the distribution, the net result is usually more profitable to the photographer. In submitting any photograph, either direct or through an agency, it should be always accompaneid by a brief but lucid description of the subject which it illustrates. A series of photographs dealing with the same subject matter may often be made more saleable if accompanied by a short descriptive article of a few hundred words, and the majority of magazines using such a series will pay for the literary matter in addition to the fees for photographs.

"Personality pictures" are always in demand, and under this head come portraits (either studio or snapshot) of any prominent figure in political, social, or sporting circles, the Church, the stage, or any other sphere of life which brings its members into the limelight of the public gaze. Generally speaking, the most saleable pictures of this class are those which depict their subjects in some characteristic occupation or hobby. The private life of a celebrity is usually a matter of public interest, and an informal "snap" of some prominent actor taking a moorland tramp, with his fox-terrier and his pipe, will probably command a wider sale than a picture of the same man wearing one of the stage costumes in which he is familiar to the public. In this connection it is well to remark that the photographer of "personality" subjects should uphold the dignity of his profession by keeping within the prescribed limits of good taste. There have been many uncomplimentary criticisms of the camera-fiend and his methods, by far the greater part of which have been the result of some attempt to obtain a snapshot of some prominent person under somewhat unfair conditions, or by the use of some existing photograph in a questionable manner. The ruling of the Jockey Club, prohibiting photography in the enclosures at all the principal race-courses, was the direct result of several flagrant instances of bad taste on the part of certain photographers, and there is one nobleman's estate where all cameras are forbidden, as the result of a breach of faith by a photographer (an amateur, by the way) who was granted permission to photograph, with certain restrictions, which he ignored. It is generally acknowledged that the worst offenders in this direction are the irresponsible free-lance men whose profits depend entirely upon the number of sales which they effect, and whose motto is, too often—"Get pictures by legitimate means if possible, but get pictures." The majority of staff photographers on any journal of repute realize that in the end it is to their advantage to avoid giving any unnecessary offence, and for that reason, if for no other, they "play the game."

One editor, under whom the writer served, used to impress upon his

staff, "You may be journalists, but you must not forget that you are gentlemen;" and if that maxim were acted upon to a greater extent, we should probably hear considerably less about "the unscrupulous methods of the press photographer." The value of a little tact cannot be overestimated. If in getting a photograph one also makes an enemy, the net gain is very doubtful.—*British Journal of Photography.*

ITINERANTS AND TAXES

BY E. FREY

EVERY now and then the time-honored occupation-tax question bobs up serenely in some part of the country. This is generally the bugle-call for photographers of that particular section to array themselves into a kind of photo-political party, composed of two wings or factions, pro- and anti-taxers; each party claiming, of course, to have the only platform and creed which will save the photographic party from going to everlasting perdition. The question as to whether the imposition of an occupation tax is in itself just or fair never seems to enter into either faction's consideration, nor do they try to determine that—if such a tax be just—when, how, or to what extent it should apply.

I have passed through tax and no-tax periods, but have not as yet been able to rid myself of the feeling that the tax, as applied to many lines of business, is under certain circumstances nothing more or less than a species of refined punishment or penalty in disguise. By "certain circumstances" I mean, that if a man be a full-fledged citizen of a country, State, and city, pays his *ad valorem* taxes on real estate, personal property, merchandise, road tax, school tax, poll tax, and other taxes incidental to municipal government, then the payment of an additional occupation tax does feel very much like a fine or penalty for daring to *make a living* in the community which so cheerfully receives all these taxes.

On the other hand, there are photographers in some sections of the country who actually clamor to be permitted to pay that tax. "Strange freaks of human nature," you say? Possibly. Let us see. You may safely bet your last dollar that it is not patriotism or civic pride that actuates them to pour their money voluntarily into the State or city's coffers, but the irresistible desire to put some knock-out drops into the itinerant photographer's cup.

I am not a travelling photographer, never have been, and never expect to be, and have, therefore, no apology to make or sympathy to waste one way or the other, but there is a certain something in my make-up that prevents me from seeing why the travelling man should necessarily always be the under dog. Any business man is liable to suffer occasionally through interlopers—that is part of the game; but it does not signify that he should throw up the sponge or run to the policeman for protection. Yet I am emphatic in my belief that there *are* times when the travelling man deserves all the attention you can afford to give him in regard to that tax.

If, for instance, you are a tax-paying citizen as indicated at the beginning of this article, and if the

views expressed there are tenable, and he cannot show that he also pays such taxes, then there would be good reason why he should come in for his share, irrespective of whether the State is in the occupation tax or no-occupation tax column. He should then be made to pay a reasonable occupation tax in every State, city, or town he enters for the purpose of business, and should pay it, not because he enters into competition with the resident photographers, but because he has no moral or legal right to be a parasite upon the commonwealth from which he draws his living. In other words, if you are paying taxes as a citizen—in contradistinction to photographer—it is but just that he pay some equivalent for the privileges which he is enjoying along with you. You may possibly remind me that you have at present no law to justify such a procedure; but "all good things come to him who *works* for them."

Loud and frequent "kicks" are also entered against the solicitor who takes house-to-house orders for enlargements for outside copying houses, etc. Those gents will always be rather tough propositions, since they have, in the Interstate Commerce Law clause, a fairly good-sized loophole; and they generally know full well how to avail themselves of that circumstance.

There is one phase of this tax question which is, I think, more far-reaching in its ultimate effect on the business, and therefore more important than the petit bickerings between the resident and travelling photographers, and that is the adjustment of the tax on *a more equitable* basis wherever it happens to be in force in the manner indicated below.

In some States—possibly in all—where the occupation tax law is in force, the taxable mercantile lines are graded, classified, and taxed according to the *volume* of their business, the amount of their investment, and amount of purchases and sales; while photographers are simply bunched as a class and put under a *fixed* tax, without the slightest regard to the above-mentioned conditions. They are required to pay a stipulated sum for a stipulated number of inhabitants, irrespective of the amount of investment, sales, or earnings.

If you are willing to admit that professional photography is a business, just as much so as anything else you may choose to call it, you will have no difficulty in seeing the utter injustice of a law which compels the photographer to pay an amount of tax which is frequently many times in excess of what he *would* pay were he rated, as he should be, as a business man. This writer, for instance (now located in a no-tax State), paid an annual tax of $20.00 for many years, while his neighbor, a merchant with a capital several times larger and sales and profits far outstripping mine, got off with a tax of only $6.00, and even complained of the enormity of the amount.

It is also quite clear that the fixed tax is anything but fair when you note how it "works" even in our own ranks in its application to one photographer as against another; or, does it perhaps appeal to you as right and fair that the little crossroads photographer or the poor, struggling, town photographer whose total monthly receipts are $60 or $70 should be compelled to pay the same amount of tax as the well-established city studio doing a $500 or $600 business?

The main fact I am trying to drive home is that if photographers are taxed *at all*, they should certainly have the legal right to be taxed by the same system and standards as any

other taxable legitimate business—on an equitable proportionate basis—and not in an arbitrary, antiquated manner like a bunch of street-corner fakers or mountebanks; and I believe you can secure that right by concerted action and getting in touch with your State senators and representatives.

Whether or not you agree with the views expressed in this article, and though there may not at present be any particular upheaval in progress in your section, it will not hurt to do a little thinking along that line before the next spasm falls due. There are, fortunately, no taxes on what we *think;* the danger lies in sometimes thinking *too loud* at the wrong time or in the wrong place, and if this article should, perchance, happen to fall under that heading, I commend myself to your tender mercies.

NEW BOOKS

The Art Treasures of Washington: An Account of the Corcoran Gallery of Art and of the National Gallery and Museum, with Descriptions and Criticisms of Their Contents; including, also, An Account of the Works of Art in the Capitol and in the Library of Congress and of the Most Important Statuary in the City. By HELEN W. HENDERSON. 384 pages and Index, with sixty-six full-page illustrations. Price, $3.00 *net.* Boston: L. C. Page & Co., 1912.

Until very recently the picture-lover had to make the trip to Europe to see a collection of pictures of any note. Now the tables are turning and many of the world's art treasures are to be found in the great public and private galleries of this country. While not so great or interesting as those of New York or Boston, the art treasures of Washington are the pride and delight of every patriotic American. Miss Henderson's book offers a resume of the best that the city of Washington affords in the artistic field. Before rushing off to Europe in search of art it would well repay many a would-be traveller to "see American art first." The galleries of Washington contain many treasures of more than passing interest to every American and the author presents an interesting account of them in her book.

The American Annual of Photography, 1913, *Volume* 27. Edited by PERCY Y. HOWE. 328 pages, illustrated. New York: The AMERICAN ANNUAL OF PHOTOGRAPHY, INC. George Murphy, Inc., New York, general sales agents. Price, paper covers, 75 cents; cloth binding, $1.25.

This, our only American photographic annual, improves steadily with the passing years, and the twenty-seventh volume is well filled with interesting reading matters and a well-chosen collection of pictures, many of them splendidly reproduced in color. The frontispiece is a charming piece of work by Ryland Phillips and is splendidly printed on buff linen Cyko. Among other contributers we notice portrait pictures by H. D. Beach, Mary Carnell, O. C. Conkling, Wm. Crooke, L. A. Dozer, Rudolph Dührkoop, Rudolph Eickemeyer, W. S. Ellis, B. J. Falk, Elias Goldensky, Katherine Jamieson, Knaffl Bros., S. H. Lifshey, and J. C. Strauss. The articles range from cinematography to wild animal photography and include many papers of practical interest to

the professional photographer. The engravings are well made and splendidly printed and we congratulate the publishers on its handsome appearance. It is splendid value for the price and every photographer should secure a copy.

The Art of the Uffizi Palace and the Florence Academy. By CHARLES C. HEYL. Forty-eight full-page illustrations, 334 pages and index. Price, $2.00 *net.* Boston: L. C. Page & Co., 1912.

In this book the author describes the great pictures to be found in the less-important galleries of Florence, the great collection of the Pitti Palace not being included. When we mention that the artists mentioned include such as Del Sarto, Michelangelo, Fra Angelico, Botticelli, Raphael, Titian, Correggio, Rubens, and Donatello, it will be seen that they are lesser galleries only by comparison. To the picture-maker and picture-lover any work by such artists as are mentioned must be of great interest. Mr. Heyl apparently realizes that the subject matter of many of the paintings by the Old Masters is more or less unintelligible to the average observer, and so tries to carry his readers behind the scenes, as it were, of the times in which the pictures were painted. The book is readable and enjoyable and the illustrations are both numerous and well executed.

The British Journal Almanac and Photographers' Daily Companion, 1913. Edited by GEORGE E. BROWN. 1448 pages, paper covers, 50 cents; cloth binding, $1.00. Postage, 27 and 37 cents extra, respectively. Sole American sales agent, George Murphy, Inc., 57 E. 9th Street, New York.

The fifty-second issue of this hardy annual adds more pages to the bulk of previous years and its 1448 pages are full of interest. The "Epitome of Progress" covers the events of the year thoroughly. "How to Do It" conveys in picture form some one hundred and twenty hints. "The Practical Methods of Telephotography," by Capt. Owen Wheeler, is of unusual interest. "Recent Novelties in Apparatus" gathers together the new apparatus introduced during the past twelve months. Added to which are the thousand odd pages of advertisements, making one of the most unique and interesting books in photographic literature and a book for which we would spend our last fifty cents and consider it a big bargain.

TRADE NOTES

THE ANSCO COMPANY, of Binghamton, N.Y., wishes to secure twenty-four unusually good photographs for advertising purposes, and is prepared to pay unusually good prices for accepted pictures. The following requirements should be taken into consideration:

"We do *not* wish constrained poses, or pictures that are manifestly pictures made striking by lighting effects that are not natural. Neither do we want pictures in which professional models and painted backgrounds lend an air of artificiality. Instead, we want *natural* scenes—made in the house, or on an outing.

"A photograph of a bit of woodland or meadow or lake or shore, a grouping of children or a mother and child or a child alone—a picture of a family pet or a bit of still life—genre pictures of all kinds. These and many other subjects are what we need.

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"Also, if between now and May 1 next,

you secure one or more negatives that are especially pleasing, make clear prints of them, and let us see them. All that are sent us will be handled with the utmost care and returned to you. They should be strongly protected for mailing or expressing, and your return address written plainly on the wrapper. A letter should accompany them. The letter must state style of Ansco used, whether Ansco film or Hammer dry plate, and grade of Cyko paper."

On May 1, 1913, all photographs received will be submitted to a committee of four. For the photograph and negative selected as the most suitable for the purpose the Ansco Company will pay $200; for the second best, $150; for the third, $100; fourth, fifth, and sixth, $50, $35, and $25 respectively, and for the next eighteen in their order of eligibility, $10 each.

This offer naturally is extended only to those who use an Ansco camera, Ansco film, or Hammer dry plates, Ansco chemicals, and Cyko paper. All photographs sent in, and which are not purchased, will be returned not later than June 1, 1913, at which time checks will be forwarded to those whose negatives are purchased. Look over your negatives or try your hand at making the kind of pictures required. The prizes are well worth trying for.

PROFESSIONAL photography has developed possibly as much as any other profession in the past few years. This has been a direct result of education. In another column of this issue appears the advertisement of a special post-graduate course for professional photographers to be given by "DADDY" LIVELY at his school in Tennessee during the entire month of March.

The school building.

Among the subjects treated during this course are several that will appeal to all photographers, and a prospectus should be applied for and reservation secured at once as the enrolment is to be limited. From what we learn of past post-graduate terms of this kind, given by "Daddy" Lively, we know the one in March will be a greater success, and any photographer attending will be more than repaid for the time and expense incurred. The fact that great satisfaction has been given students who have attended former special as well as regular terms in the Southern School of Photography enables us to recommend this school without hesitancy.

THE following extracts from a circular issued by BURKE & JAMES, of Chicago, are of special interest to every photographic dealer, few of whom seem to realize the rapid strides the motion-picture industry is making:

"Within the past six years the motion-picture business has developed from a small novelty proposition into an enormous industry, with an annual business of many millions of dollars, and its growth has been so rapid that no system of selling yet devised could keep up with its advancement. It has now reached such vast proportions that modern merchandizing methods are absolutely necessary to give adequate service to the actual existing demand.

"The motion-picture business rightly belongs to the photo-supply dealers, as it requires a knowledge of photography, projection and optics not possessed by exchange men in general.

"There are practically no motion-picture concerns devoting themselves to the sale of machines and supplies, and there is little if any local representation. This unorganized condition of the supply end offers the enterprising photo-supply dealer an opportunity to share in the great profits which this phase of the business yields.

"In your town there are a number of motion-picture theatres which are in constant need of new appliances and supplies of some kind, and if you will make a careful canvas among this trade, pointing out the fact that you handle motion-picture apparatus, you will be able to sell not only high-grade projection machines but the subsequent supplies as well."

BURKE & JAMES are issuing a special bulletin devoted to motion-picture matters, and will be glad to coöperate with dealers who are anxious to enter this field.

THERE is an unusually good opportunity for a first-class photographer to open up in Montreal, Canada, advertised elsewhere in this issue. Look it up.

CHEMISTRY is an exact science and the best results are only obtained when quantities and qualities are strictly attended to. When purchasing metol, ortol, glycerin, etc., it is best to specify and call for HAUFF'S metol, ortol or glycin, and know what you are getting. G. GENNERT, New York and Chicago, is the sole importer of these developers into the United States, which are distinguished by a little white ticket on each original package. Insist on the name and label. They are your guarantee for quality.

WILSON'S PHOTOGRAPHIC MAGAZINE

A MONTHLY MAGAZINE FOR PRACTICAL PHOTOGRAPHERS

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MRS. EDWARD L. WILSON AND T. DIXON TENNANT, Editors

EDWARD L. WILSON, 122 EAST TWENTY-FIFTH STREET, NEW YORK
Entered at New York Post-office as Second-class Matter

Yearly subscription in advance, United States and Mexico, $3.00; Canada, $3.25; Foreign Countries, $3.50. Single copies, 25 cents. Subscriptions begin with current issue unless otherwise ordered. Original manuscripts on photographic subjects are solicited, and, if accepted, will be paid for on publication.

STATEMENT OF THE THE OWNERSHIP, MANAGEMENT, ETC.,

of WILSON'S PHOTOGRAPHIC MAGAZINE, published monthly at New York City, N. Y., required by the Act of August 24, 1912.

Editor—Mrs. Edward L. Wilson	122 E. 25th Street, New York City, N. Y.
Managing Editor—T. Dixon Tennant	New York City, N. Y.
Business Managers—Mrs. E. L. Wilson and T. Dixon Tennant	New York City, N. Y.
Publisher—Mrs. Edward L. Wilson	New York City, N. Y.
Owner—Mrs. Edward L. Wilson	New York City, N. Y.

Known bondholders, mortgagees, and other security holders, holding 1 per cent. or more of total amount of bonds, mortgages, or other securities—None.

Sworn to and subscribed before me this Thirtieth day of September, 1912.

B. M. SWIFT,
Commissioner of Deeds, New York City.
(My commission expires April, 1913.)

EDITORS' TABLE

BURROUGHS, WELLCOME & Co., of "Tabloid" photo-chemical fame, issue annually a pocket exposure record and diary. The 1913 edition is now on the market. It is a handy and thoroughly reliable little reference book, full of tables and other useful information in compact form. It also contains the "Wellcome Exposure Calculator," which offers the simplest and quickest method of finding the correct exposure for any and every subject. This feature of the book alone makes it worth several times its purchase price, which is fifty cents, at your dealer's. Every hand-camera user can improve his work and save money by consulting the *Wellcome Exposure Record and Diary.*

AT a special meeting of the Entertainment Committee of the PROFESSIONAL PHOTOGRAPHERS' CLUB OF NEW YORK to consider new features for the coming Sixth Annual Ball, to be held on February 12, 1913, at the Hotel Majestic, New York, the committee announces that: "As there is no other function which draws together a greater number of lovers of art than a fine concert they have secured the services of the Hoadley Musical Society, Brooklyn's foremost symphony orchestra of sixty men, with an interesting program of a high musical standard, comprising orchestral, vocal and instrumental numbers, the details of which will be announced at a later date."

Coming as it does during the New York State Society's Annual Convention, such an interesting event will appeal very strongly to all visiting photographers, who are cordially invited.

THE UNIVERSITY of SYRACUSE, N. Y., enjoys a nation-wide reputation for thoroughness, and the announcement that photography is to be included in its curriculum is bound to arouse more than ordinary interest.

Always progressive, the University of Syracuse has been quick to realize the important part photography is playing in both the technical and artistic history of the world. It has also realized that though its applications are wonderfully broad, photography is still in its infancy when compared to its future possibilities.

To properly provide for thorough and scientific study and research in this important science and to place America scientifically, as she now is commercially, in the lead, is the purpose of this new department.

The Department of Photography will most appropriately be conducted in connection with the College of Fine Arts.

The main feature to be kept in view will be the thorough grounding in both theory and practice in every branch, enabling students to take a degree in photography, and to specialize in its various branches.

The course is remarkably complete, embracing the scientific study of light from both the optical and chemical standpoints. The construction, use, and choice of lenses, the theoretical and practical use of the camera in its various types; the study of photographic emulsions. Theory and practice in color-sensitive plates, and color filters; development, including the action of developers, and the tentative and time methods of development, and the scientific after treatment of negatives; the various modern printing processes; enlargement and reduction; stereoscopic work and advanced courses in color processes, studio work, photo, and mechanical processes; photomicrography; spectrography; advanced emulsion making and scientific plate testing.

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No. 1 - Make five exposures—correctly timed—from the negative, using *Argo* and any other developing paper you choose. Use the developer recommended by the manufacturers of the respective papers. Develop one *Argo* print and one of the other paper for 20 seconds; one each for 45 seconds; and one each for 1 minute, 1½ minutes and 2 minutes. Fix and wash as usual. There will be scarcely any difference between the five *Argo* prints. None of them will "block" in the shadows.

Argo has latitude in development not possessed by any other paper.

This is one reason why it is the "No-Trouble" paper.

No. 2 - A harder test - Perform the above experiment, but use the developer recommended by the competing paper manufacturer for both *Argo* and the other paper.

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Look for the DEFENDER shelves, or send to us for booklet and name of nearest dealer.

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FOR SALE The well-known "Havens Studio," Jacksonville, Fla., at a great bargain for spot cash. Being sold on account of the death of O. Pierre Havens. For particulars address Mrs. O. Pierre Havens, 35 W. Church Street, Jacksonville, Fla.

POSITION Wanted, New York, by gentleman of the highest experience in the organization of photographic stores wholesale, retail, or studio. Holds the highest diploma offered in London for photo-chemistry. Has an exhaustive knowledge of photography in colors and has two workable processes for printing Autochromes and other screen plates on paper. References from the leading workers and scientists throughout the world. Address A. B. H., 10 Vernon Place, Southampton Row, London, England.

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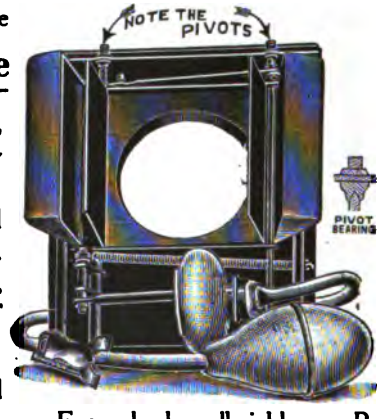

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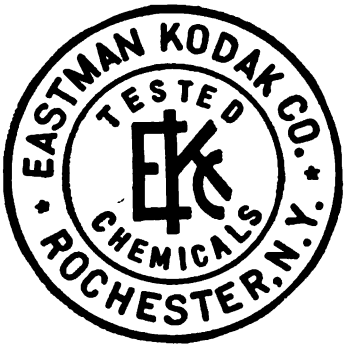

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